

Lockout/Tagout Program

(Control of Hazardous Energy)

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Effective Date: 6/1996

Applies to: Employees, Faculty, Students, Others

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I. PURPOSE

This policy is established to protect University employees from the serious injuries that could result from the unexpected release of hazardous energy while they are servicing machinery or equipment. As required by the Occupational Safety and Health Administration (OSHA) Standard [29 CFR 1910.147, *The Control of Hazardous Energy Sources \(Lockout/Tagout\)*](#), this policy contains the necessary elements of an energy control program, which includes documented Lockout/Tagout procedures, employee training, periodic inspections and the means to enforce compliance. Failure to comply with the lockout/tagout procedures of this policy and of the OSHA standard is cause for disciplinary action up to and including dismissal.

II. SCOPE

This policy applies to the servicing or maintenance of machines and equipment where the unexpected energization, start-up or release of stored energy could cause injury to employees.

Examples of applicable energy sources include, but are not limited to, electrical, thermal, mechanical, hydraulic, pneumatic and chemical.

EXEMPTIONS:

1. Minor servicing activities taking place during normal operations that are routine, repetitive and integral to the use of the machine or equipment, provided that:
 - a) There is no bypass or removal of guards or other safety devices; **and**
 - b) Employees are not required to place any part of their bodies into a point of operation, or where other associated dangers exist.
2. Minor printing press servicing activities taking place during normal operations that are routine, repetitive and integral to the use of the printing press which can be safely accomplished by employees provided that:
 - a) Extensive disassembly of equipment is not required to perform the servicing
 - b) Effective alternate protection measures are used which allow an employee to perform minor servicing without being exposed to the unexpected release of hazardous energy (i.e., using special tools or techniques such as the inch-safe-service technique). [Note: OSHA's interpretation of the Lockout/Tagout and Machine Guarding standards, as they apply to printing presses, is available from the Department of Environmental Health and Safety].
3. Cord and plug connected electrical equipment that, when unplugged, contains no stored energy and cannot be unexpectedly energized. The plug must be under the **exclusive control** of the **authorized employee** working on the equipment. [Note: a plug is in exclusive control of an employee if it is physically in the employee's possession, or within arm's reach and in the line of sight of the employee.]
4. Hot Tap operations (e.g., welding on a steam line) where the continuity of service is essential, a shutdown of the system is impractical, documented procedures are followed **and** special equipment is used which provides proven effective protection for employees.

III. DEFINITIONS

Affected Employee - An employee who operates or uses a machine or equipment on which servicing or maintenance is performed under lockout/tagout, or who works in an area in which such servicing or maintenance takes place.

Authorized Employee - An employee who is primarily responsible for his or her personal safety by locking and tagging out machines or equipment to service or maintain them.

Energy Isolating Device - A mechanical device that physically prevents the transmission or release of energy. Examples: electrical circuit breakers, disconnect switches, line valves or blocks.

[Note: push buttons, selector switches and other control circuit-type devices are not energy-isolating devices].

Lockout/Tagout - the placement of lockout and tagout devices on an energy isolating device, according to the established procedures of this policy (see sections IV and V).

Lockout Device - a lock stocked by Central Stores (catalog # 1428.0105 or 1428.0112), or equivalent device.

Tagout Device - a warning tag stocked by Central Stores (catalog # 1428.1003), or equivalent device.

IV. GENERAL LOCKOUT/TAGOUT PROCEDURES--To be used when machinery or equipment has only one energy source.

To conduct any service or maintenance work on machines or equipment, **authorized employees** must follow the following Shutdown and Restart procedures:

A. Shutdown Procedures--Establishing Lockout/Tagout

1. Prepare for Shutdown - locate and identify
Locate and identify all energy isolating devices that apply to the machine or equipment to be locked out. (If more than one energy source is involved, the Machine-Specific Lockout/Tagout Procedures in Section V must be followed).
2. Notify
Notify all **affected employees** that a lockout/tagout is about to take place, the reason for the lockout/tagout, and the specific machinery or equipment affected.
3. Shut Down
Shut down the machine or equipment by its normal stopping procedure.
4. Isolate
Operate the disconnect switch, circuit breaker, valve or other energy isolating device to isolate (disconnect) the machine or equipment from its energy source.

5. Lockout and Tagout
Apply individually assigned lockout and tagout devices to the energy isolating device.
6. Relieve/Restrain Stored Energy
Exhaust or restrain stored or residual energy in the machine or equipment by grounding, blocking, bleeding down, etc.
7. Verify Isolation
Clear the area around the machine or equipment of nonessential objects. Make sure that all personnel are safely positioned or removed from the area. Then test all the operating controls by putting them in the “on” position to ensure that the energy source has been successfully disconnected.

CAUTION: Return the operating control(s) to the neutral or off position before proceeding with servicing or maintenance work.

LOCKOUT/TAGOUT IS NOW COMPLETE - the **authorized employee** may proceed with servicing or maintenance work.

B. Restart Procedures -- Removal of Locks and Tags

1. Check Machine/Equipment
Check the machine/equipment and surrounding area to ensure that nonessential objects have been removed, guards have been reinstalled and that the machine/equipment is operationally intact.
2. Verify
Verify controls on the machine/equipment are in the neutral or off position and that all employees are safely positioned or removed from the area.
3. Remove Locks and Tags
Remove lockout and tagout devices and reenergize.
4. Notify Affected Employees
Before restarting machinery/equipment, notify **affected employees** that the servicing or maintenance is complete and that locks and tags have been removed.

V. MACHINE-SPECIFIC LOCKOUT/TAGOUT PROCEDURES--To be used when machinery or equipment has more than one energy source that must be controlled to perform service/maintenance work.

If servicing or maintenance work requires controlling more than one energy source on a machine, written Lockout/Tagout Procedures must be developed for each specific machine. If the methods to control energy sources are identical for a group of machines, then one set of procedures may be developed for the group. Environmental Health and Safety is available to assist in developing machine-specific procedures.

VI. SPECIAL SITUATIONS

A. GROUP LOCKOUT/TAGOUT

Whenever more than one **authorized employee** performs Lockout/Tagout, each individual group member must follow the Lockout/Tagout procedures outlined in this policy. Employees must NEVER depend upon someone else's lockout device, and must ALWAYS use their individually assigned lockout device.

Individual departments are encouraged to develop written programs for complex operations (especially those conducted regularly) that involve group lockout/tagouts. Environmental Health and Safety is available to assist in developing written programs.

B. USING TAGOUT ONLY

Tagout without a lock is allowed ONLY when machinery or equipment is incapable of being locked out. Tagout may be implemented ONLY with the prior knowledge and approval of the appropriate supervisor, using the following procedures.

1. The **authorized employee** will advise the supervisor that lockout is not possible.
2. The **authorized employee** and supervisor will determine if other equally effective controls can be implemented, such as the removal of a valve stem, isolating a circuit element, or by blocking a controlling switch.
3. Supervisors must provide training to the **authorized** and **affected employees** involved in the tagout operation at the time tagout is to be conducted.
3. The **authorized employee** will follow the applicable Lockout/Tagout Procedures outlined in this policy, omitting lockout.
4. The **authorized employee** will securely attach his/her tagout device to the energy isolating device where a lockout device would have been attached, if possible.

C. SHIFT CHANGES

When machines must be serviced by more than one shift, a procedure must be established for the orderly transfer of responsibility from one shift to another. In developing this procedure, the following must be taken into account:

1. Each **authorized employee** must ensure that equipment he/she is working on is locked and tagged out with his/her individually assigned lockout and tagout device. Employees must NEVER depend on someone else's lockout device for protection.
2. **Authorized employees** must remove their individually assigned lockout and tagout devices once service or maintenance work is completed.
3. Lockout/tagout devices must NEVER be left on beyond an **authorized employee's** work shift without supervisor approval.

D. REMOVING LOCKOUT AND TAGOUT DEVICES

The key to each lockout device must be in the sole possession of the employee to which it was assigned. Only the **authorized employee** who applied the lockout or tagout device may remove it, except as noted below.

EXCEPTION: When the **authorized employee** who applied a lockout or tagout device is not available to remove it, the device may be removed ONLY under the direction of TWO supervisors provided that:

1. Absolute verification has been made that the employee is not on University grounds or otherwise available.
2. Every reasonable effort has been made to contact the employee to notify him/her that his/her lockout/tagout device has been removed.
3. The employee is informed before returning to work that his/her lockout/tagout device has been removed.

VII. PERIODIC INSPECTIONS

Documented periodic inspections must be made at least **annually** by supervisors to verify that Lockout/Tagout procedures are understood by employees and are being followed properly. A form in [Appendix A](#) is provided for this purpose, a copy of which should be sent to Environmental Health & Safety. Environmental Health and Safety is available to assist in conducting periodic inspections.

VIII. OUTSIDE CONTRACTORS

The University's Lockout/Tagout policy must be made available for review to all prospective bidders of a contract involving activities subject to OSHA's Lockout/Tagout regulations (29 CFR 1910.147). Lockout/Tagout procedures must be exchanged and coordination of procedures must be discussed between the Contractor and the University during a pre-job meeting.

All concerned University employees must be effectively informed of the restrictions and prohibitions associated with the outside Contractor's Lockout/Tagout procedures.

IX. TRAINING REQUIREMENTS

Employees must be trained according to their assigned duties. Training will be conducted by the Department of Environmental Health & Safety in conjunction with appropriate supervisors. The following training is required:

1. **Authorized employees** will receive initial training in how to recognize hazardous energy sources, the type and magnitude of the energy available in the workplace, and the required Lockout/Tagout procedures to be followed to ensure energy isolation and control.
2. **Affected employees** will be instructed in the purpose, use and restrictions of Lockout/Tagout and how to recognize that Lockout/Tagout is being implemented.
3. **Authorized and affected employees** will receive retraining whenever:
 - a. their job assignments change;
 - b. a change in machines, equipment or processes creates a new hazard;
 - c. Lockout/Tagout procedures change; **or**
 - d. observations or inspections reveal that an employee is not following or does not fully understand the Lockout/Tagout procedures.

X. RESPONSIBILITIES

A. Supervisors will:

1. Notify employees of the University's Lockout/Tagout Policy, and make the policy readily available to them.
2. Identify and schedule all **authorized and affected employees** for initial training on Lockout/Tagout with Environmental Health & Safety.

3. Schedule employees for retraining with Environmental Health & Safety, as required by this policy.
4. Maintain copies of attendance records of training sessions.
5. Develop Machine-Specific Lockout/Tagout procedures, as required by this policy.
6. Conduct periodic Lockout/Tagout inspections, correcting any deviations or inadequacies observed, as required by this policy.
7. Provide **authorized employees** with individually assigned lockout and tagout devices.

B. Employees will:

1. Familiarize themselves and comply with the University's Lockout/Tagout Policy.
2. Attend training sessions, as required by the policy.
3. Notify supervisors of any change in their workplace or job duties which prevent them from following Lockout/Tagout procedures.

In addition, Authorized Employees will:

4. Always follow the Lockout/Tagout procedures outlined in this policy when performing service or maintenance work on machines or equipment.
5. Use only **approved** lockout and tagout devices for Lockout/Tagout. **Never** use lockout or tagout devices for any purpose other than to perform Lockout/Tagout.
6. Remove their individually assigned lockout and tagout devices once service or maintenance work is completed. Lockout/Tagout devices may not be left on beyond an **authorized employee's** work shift without supervisor approval.

C. Environmental Health & Safety will:

1. Written Program
Develop, implement and maintain the University's Lockout/Tagout Policy.
2. Inspections
Assist supervisors in their annual and periodic lockout/tagout program inspections, when requested.

3. Employee Training
Provide lockout/tagout training to employees.

4. Recordkeeping
 - a) Maintain attendance records of training sessions.
 - b) Maintain copies of periodic Lockout/Tagout program inspections.

Appendix A

Periodic Lockout/Tagout Inspection Form

Directions:

- Conduct periodic inspections **at least annually**
- Use one form for each machine or equipment that has a written Lockout/Tagout Procedure
- Keep the original on file and **send a copy to Environmental Health & Safety, Unit 4097, FAX 6-1106**

Department/Shop:	Unit:	Date:
Machine/Equipment Inspected:		

Employees included in the inspection:

1.	2.	3.
4.	5.	6.
7.	8.	9.

Review the Lockout/Tagout Procedures and employee responsibilities with the authorized employees and complete the following:

1. Do the employees understand the Lockout/Tagout Procedures and their responsibilities under the University Lockout/Tagout Policy?

YES NO If no, indicate corrective action taken:

2. Do the employees follow the Lockout/Tagout Procedures?

YES NO If no, indicate corrective action taken:

3. Are the established Lockout/Tagout Procedures effective to provide full protection?

YES NO If no, indicate corrective action taken:

4. Other discrepancies noted and corrective actions taken:

Person(s) Conducting Inspection:

Name:	Signature:	Department:
Name:	Signature:	Department: