

Volunteer State Community College

Lockout/Tagout Program

Occupation Safety & Health Standards for General Industry
29 CFR 1910.147

The information contained in this manual documents the policies and procedures of Volunteer State Community College including the Livingston and Springfield campuses and all off-campus locations.

This information, as well as additional Environmental, Health & Safety information, can also be found online at <http://www.volstate.edu/Safety/>

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Lockout/Tagout Program

Table Of Contents

Lockout/Tagout Program	1
Exemptions	1
Definitions.....	1
Responsibilities	2 &3
General Lockout/Tagout Procedures.....	4
Restarting Procedures	5
Special Circumstances	5&6
Periodic Inspections.....	7
Contractors	7
Training	7
Appendix I.....	8
Lockout/Tagout Inspection Form	

Lockout/Tagout

This program is established to protect Volunteer State Community College (VSCC) employees from the serious injuries that could result during the unexpected energization, startup or release of stored energy while servicing or repairing machinery or equipment. Applicable energy sources include, but are not limited to, electrical, thermal, mechanical, hydraulic, pneumatic and chemical.

This program contains the necessary elements of a hazardous energy control program, which includes documented Lockout/Tagout procedures, employee training and periodic inspections as required by the Occupational Safety and Health Administration (OSHA) **Control of Hazardous Energy Sources (Lockout/Tagout) Standard**, 29 CFR 1910.147.

EXEMPTIONS:

1. Minor servicing activities taking place during normal operations that are routine, repetitive and integral to the use of machines or equipment, provided that:
 - a) There is no bypass or removal of guards or other safety devices;
 - b) Employees are not required to place any part of their bodies into a point of operation, or where other associated dangers exist;
 - c) Extensive disassembly of equipment is not required to perform the servicing; and
 - d) Effective alternate protection measures are used which allow an employee to perform minor servicing without being exposed to the unexpected release of hazardous energy.
2. 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.)
3. Service on pressurized gas, steam, water, and petroleum products systems where continued operation is essential, shutdown is impractical, and special equipment is used which provides proven effective protection for employees.

DEFINITIONS

Authorized employee: An employee who locks or tags machines or equipment in order to perform servicing or maintenance.

Affected employee: An employee who is required to use machines or equipment on which servicing is performed under the Lockout/Tagout standard or who performs other job responsibilities in an area where such servicing is performed.

Lockout/Tagout Program

Energized: Machines and equipment are energized when they are connected to an energy source or they contain residual or stored energy.

Energy-isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a 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; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

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

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: Any device that uses positive means, such as a lock, blank flanges and bolted slip blinds, to hold an energy-isolating device in a safe position, thereby preventing the energizing of machinery or equipment.

Servicing and/or maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, maintaining and/or servicing machines or equipment, including lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where employees could be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

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: Any prominent warning device, such as a tag and a means of attachment that can be securely fastened to an energy-isolating device to indicate that the machine or equipment to which it is attached may not be operated until the tagout device is removed.

RESPONSIBILITIES

A. Director and/or Supervisor:

1. Notify and communicate to employees the importance of implementing Lockout/Tagout procedures and make the Lockout/Tagout policy readily available to them.
2. Identify all **authorized employees** and ensure they attend initial training/retraining on the Lockout/Tagout policy.
3. Develop Machine-Specific Lockout/Tagout procedures, when necessary.
4. Conduct periodic Lockout/Tagout inspections, correcting any deviations or inadequacies observed, as required by this policy.
5. Provide **authorized employees** with individually assigned lockout and tagout devices.

B. Authorized Employees:

1. Comply with the Lockout/Tagout procedures outlined in this policy when performing service or maintenance work on machines or equipment.
2. 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.**
3. 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.
4. Attend training sessions, as required by the policy.
5. Notify supervisors and lead workers of any change in their workplace or job duties which prevent them from following Lockout/Tagout procedures.

C. Director of Environmental, Health & Safety (EH&S):

1. Develop, implement and maintain the Physical Plant's Lockout/Tagout Policy.
2. Provide lockout/tagout training to employees.
3. Assist supervisors and lead workers in their annual and periodic lockout/tagout program inspections, when requested.
4. Maintain training records.

GENERAL LOCKOUT / TAGOUT PROCEDURES for DEENERGIZING EQUIPMENT

The following procedures apply in situations where **only one** energy source exists for machinery or equipment.

To properly deenergize and eliminate all sources of potential hazardous energy during servicing and maintenance operations and to prevent an employee from omitting an important step in the energy control procedure, **authorized employees** must follow the following Shutdown and Restart procedures:

A. SHUTDOWN PROCEDURES—ESTABLISHING LOCKOUT/TAGOUT

1. **Prepare for Shutdown - Locate and Identify**

Survey the work area to locate and identify all energy isolating devices to be certain which switch(s) and valve(s) apply to the machine or equipment to be locked out.

(If more than one energy source is involved, the Machine-Specific Lockout/Tagout Procedures 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**

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

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**

Stored energy such as that in rotating flywheels, hydraulic systems, springs, etc. must be dissipated or restrained by grounding, locking, bleeding down, etc.

7. **Clear the Area and Test**

Clear the area around the machine or equipment. 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 the 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.

SPECIAL CIRCUMSTANCES

A. LOCKOUT/TAGOUT PROCEDURE INVOLVING MORE THAN ONE PERSON (GROUP LOCKOUT/TAGOUT)

If more than one **authorized employee** is required to Lockout or Tagout equipment, each person shall place their own personal Lockout device or Tagout device on the energy isolating device(s). When an energy-isolating device cannot accept multiple locks, a multiple lockout hasp will be used. As each person no longer needs to maintain his/her lockout protection, that person will remove his/her lock from the hasp. Employees must NEVER depend upon someone else's lockout device, and must ALWAYS use his/her individually assigned lockout device.

B. TAGOUT ONLY PROCEDURE

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.
4. The **authorized employee** will follow the applicable Lockout/Tagout Procedures outlined in this policy, omitting lockout.
5. 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 equipment and machinery 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 his/her 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. EQUIPMENT-SPECIFIC LOCKOUT / TAGOUT PROCEDURES

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. Health and Safety is available to assist in developing machine-specific procedures.

E. 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 campus 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.

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 the Director of Environmental, Health & Safety. The Director of EH&S is available to assist in conducting periodic inspections.

CONTRACTORS

VSCC Physical Plant's Lockout/Tagout policy shall be made available for review to all contractors that are involved in work activities subject to OSHA's Lockout/Tagout regulations (29 CFR 1910.147). The Physical Plant will inform the contractor that Lockout/Tagout procedures shall be implemented through compliance with the contractor's Lockout/Tagout program meeting the requirements of 29 CFR 1910.147.

All Physical Plant employees that perform work in cooperation with contractors must be informed of the restrictions and prohibitions associated with an outside Contractor's Lockout/Tagout procedures. In no situations is a contractor allowed to remove VSCC lockout and tagout devices without the expressed permission of the Physical Plant. The procedures outlined in the **REMOVING LOCKOUT AND TAGOUT DEVICES** section of this policy shall apply.

TRAINING

Training will be provided by the Director of EH&S in conjunction with appropriate supervisors and lead workers. 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 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 doesn't understand the Lockout/Tagout procedures.
4. Training will be documented and records maintained by the Director of EH&S.

Periodic Lockout/Tagout Inspection

Directions:

- Conduct periodic inspections **at least annually**
- Keep the original, completed form **on file**, and send a copy to **EH&S**.

Physical Plant Shop:	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 Physical Plant's 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 Problems noted and corrective actions taken:

Person(s) Conducting Inspection:

Name:	Signature:
Name:	Signature:

Appendix I

Lockout/Tagout Inspection Form