



Department of Administration & Office of Enterprise Technology	Lockout/Tagout Policy	Page: 1 of 17
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Purpose

The purpose of the policy is to ensure the safety of all employees who perform service or maintenance on machinery or equipment, where unexpected energizing, start up or release of any type of energy could occur causing injury and or damage to the machinery or equipment . This policy also outlines the proper procedures to follow to assure the equipment has been rendered safe to work on by having all energy sources locked out, blocked or tagged out.

Scope and Application

This policy applies to maintenance and service employees who perform work on energized equipment (i.e. electricity, steam, pneumatics, hydraulics etc...)

Standard

29 CFR 1910.147 The Control of Hazardous Energy (lockout/tagout)

Program Components

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1. Roles and Responsibilities

Safety Administrator

- Assure that adequate LO/TO procedures are developed and implemented to assure the safety of employees and/or machinery or equipment. Ensure online access to procedures via the Human Resources Safety Webpage.
- Assure that all Supervisors receive training on the LO/TO program.
- Assist Department Representatives/Supervisors in determining policy compatibility with outside contracted employer's LO/TO policy.
- Assist Supervisors/Foreman with developing equipment specific lockout procedures.
- Conduct an annual LO/TO program review for updates or changes.

Supervisors/Foremen

- **Assist with developing equipment specific lockout procedures.** (see appendix A for blank procedure)
- Assure that LO/TO procedures are applied in their area of operations.
- Assure that employees under their supervision apply LO/TO procedures where necessary.
- Assure that employees under their supervision have received training on how the LO/TO program functions.
- Assure the availability of locks, tags, lockout box(s), and equipment specific lockout procedure(s) to all employees who are required to use them.
- Determine who will be the Responsible/Lead (Primary) Authorized Employee for coordinating multiple source/multiple crew lock outs or five minute safety briefing prior to lockout.
- Conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the provisions of this section are being followed.
Certify through documentation that the inspections required by this section have been accomplished (see Periodic Inspection Form appendix D).
- Identify and prioritize equipment list for LO/ TO multiple source equipment specific procedures to be written (see appendix A for blank procedure).

- Ensure outside contractors have a LO/TO policy that complies with all applicable local, state and federal regulations.

Authorized Employees

A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment.

- Conduct, implement and coordinate hazardous energy isolation LO/TO procedures as required by this program.
- Verify equipment specific lockout procedure (multiple source) is accomplished, and apply their own lock and tag on the lock box key section, or, apply their own locks and tags to each energy isolation point, leave their locks on for the duration of work, and remove their locks after their work is complete, as required by this program.
- They alone, apply their own locks and tags and no one else's as required by this program (see section 7 of this program for removal of LO/TO devices by other than Authorized Employee).
- Indicate when LO/TO procedures are required before submitting completed work tickets to Supervisor.
- Notify affected employees of the application and removal of LO/TO devices in the work area.
- Attend LOTO training.

Responsible/Lead (Primary) Authorized Employee

The person whom will coordinate, conduct, and implement hazardous energy isolation for multiple source/multiple crews LO/TO procedures as required by this program.

- Apply and remove The Department's specific locks and tags on all applicable energy isolation points (multiple source) as required by this program.
- Complete equipment specific energy isolation lockout procedure as required by this program.
- Notify Authorized Employees when equipment lockout procedure is complete and lockout of energy isolation points are accomplished (lock box), or, coordinate all energy isolation points are locked out and tagged by each Authorized Employee as required by this program.

- Notify Affected Employees of the application and removal of LO/TO devices in the work area. Assist in developing an energy specific lockout procedure for equipment that requires a procedure and does not exist (see appendix A for blank procedure).
- Indicate when LO/TO procedures are required before submitting completed work tickets for closing.

Affected Employees

An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under LO/TO, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

- Abide by the rules of the LO/TO program.
- Follow instructions of authorized employees.
- Contact supervisor if there are any questions concerning the LO/TO situation.

Owner's Representatives

- Ensure outside contractors have a lockout/tagout policy that complies with all applicable local, state and federal regulations.

2. When Lockout/Tagout Applies

For service and maintenance of equipment that has a hazardous source of energy (i.e. electric, steam, pneumatic, hydraulic etc...), all energy sources must be effectively identified to isolate and assure the safety of the maintenance and service personnel.

3. Applying Lockout/Tagout Procedures – Single Energy Source

A. Identify Hazardous Energy Source - Authorized Employee

- The Authorized Employee performing the service/maintenance shall locate and identify the energy source to be isolated. (identify the magnitude of energy type involved.)
- Determine which device must be used to isolate the energy source (i.e. selecting the appropriate hasp/locking device).

Apply their personal lock and tag to the energy isolation point (i.e. main disconnect, circuit breaker etc...), complete the tag appropriately, leave their lock on for the duration of work, and remove their lock after their work is complete.

B. Identify Hazardous Energy Source - Multiple Crew

- The Responsible/Lead Authorized Employee will ensure the continuity of energy control measures for the group.
- Continually monitoring the work to ensure the crew/group employees are not exposed to hazards associated with lockout/tagout.
- Contacting the Supervisor if problems occur (or additional group coordination is necessary) regarding lockout/tagout.
- The Responsible/Lead Authorized Employee performing the service/ maintenance shall locate and identify the energy source to be isolated. (identify the magnitude of energy type involved.)
- Determine which devices must be used to isolate the energy source (i.e. selecting the appropriate hasp/locking device).
- Apply The Departments' area specific lock, tag, and hasp over the energy isolation point (i.e. Main disconnect, circuit breaker ect.) and ensure all applicable Authorized Employees place their personnel lock and tag on the energy isolation point hasp - ensure they complete the tag appropriately.
- Verifying that all procedures for returning the equipment back to service are completed and equipment is cleared of all personnel before taking off the Departments' area lockout/tagout device.

C. Notify Affected Employees

- Notify "Capitol Security" that equipment will be out of service while working (when equipment is connected to Capitol Security network or any other affected employees).

D. Shut Down Equipment

- The equipment or machine to be maintained/serviced is shutdown by normal stopping procedure.

(Note: Tags that can not be affixed directly to the energy isolation device shall be located as close as possible to the device in a position that will be immediately obvious to anyone attempting to operate the equipment).

E. Isolating Equipment

- Authorized Employees performing work on a piece of equipment that has to be

isolated must apply their own lock (which is keyed individually) and tag for the duration of their work. This may require that a multi-lock hasp be used.

- The energy source must be secured and isolated before maintenance or service begins. (i.e., Main disconnects circuit breaker, etc...)
- All potentially hazardous stored or residual energy shall be relieved, disconnected, restrained or otherwise rendered safe (by testing) equipment for stored or potential energy. (See Part G of this section.)

F. Attaching Lockout/Tagout Devices

- Apply hasp, lock and tag. Assure the hasp and locks have been attached along with the tag in such a manner that the energy source can not be energized accidentally.
- Tag Out is used **only when the equipment/machine will not accept locks** - Each authorized employee places a personnel lock/tag on the energy isolator device before beginning work.
- The equipment is now locked and tagged out.

G. Releasing Stored Energy

- After lockout/tagout devices are in place, the stored (potential) energy sources involved with the equipment (e.g. electrical, gravitational, mechanical, and/or thermal energy) are disconnected/drained or otherwise made safe by blocking or repositioning components.

This may include:

1. Releasing pressurized hydraulic, air, steam, gas or water lines.
2. Discharging electrical capacitors.
3. Releasing of spring loaded systems.
4. Blocking any rotating, swinging or elevated parts.

H. Verifying Isolation

- The Authorized Employee verifies that the hazardous energy source is isolated before maintenance/service begins. ***This includes situations where LO/TO lasts more than one day. LO/TO must be re-verified.*** Verifying that the hazardous energy source is isolated by turning the normal operating controls for the equipment to the "on" position (and then turning it off again).

I. Performing Work

- After verifying that the equipment or machine has been isolated, authorized employees do the service or maintenance work as scheduled.

4. Applying Lockout/Tagout Procedures-Multiple Energy Source

Two or more energy sources (i.e. two electrical disconnects, one gate valve and one electrical disconnect, two circuit breakers etc...)

A. The Responsible/Lead Authorized Employee will Complete The Department's Specific Equipment Lockout Procedure(s)

- Complete the applicable Department equipment specific energy isolation lockout procedure. Initial all applicable steps or write N/A and write in a comment in the "comments section" why a step was not accomplished (if applicable).
- Apply and remove (when complete) The Department's area specific locks, tags and hasps to the energy isolation points as identified on the equipment specific lock out procedure.
- **Lock box** - Notify applicable Authorized Employees to place their personal lock and tag over the lock box key section hasp when the specific equipment lockout procedure is complete and lockout of energy isolation points are accomplished.

or

Individual (personal) Locks/Tags - Ensure Authorized Employees place their personal locks and tags on all energy isolation points as identified on the Department's specific equipment lockout procedure.

- Ensure Authorized Employees complete the tags appropriately (see appendix B).

B. Multiple Crew/Multiple Source Lockout - The Responsible/Lead Authorized Employee will Complete The Department's Specific Equipment Lockout Procedure(s)

- Complete the applicable Department equipment specific energy isolation lockout procedure. Initial all applicable steps or write N/A and write in a comment in the comments section why a step was not accomplished (if applicable).
- Apply and remove Department area specific locks, tags, and hasps to the energy isolation points as identified on the equipment specific lock out procedure.
- **Lock box** - notify applicable Authorized Employees to place their personal lock and tag over the lock box key section when equipment lockout procedure is complete and lockout of energy isolation points are accomplished.

Or

Individual (personal) locks - Ensure Authorized Employees place their personal locks and tags on all energy isolation points as identified on the specific equipment lockout procedure.

- Ensure Authorized Employees complete the tags appropriately (see appendix B).
- Continually monitoring the work to ensure the crew/group employees are not exposed to hazards associated with lockout/tagout.
- Complete the unlock/clearing section of the equipment specific lockout procedure and verify all personnel are cleared before returning the equipment back to service.
- Contacting the Supervisor if problems occur (or additional group coordination is necessary) regarding lockout/tagout.

C Notify Affected Employees

- Notify “Capitol Security” that equipment will be out of service while working (when equipment is connected to Capitol Security network or any other affected employees).

D. Shut Down Equipment

- The equipment or machine to be maintained/serviced is shutdown by normal stopping procedure.

(Note: Tags that can not be affixed directly to the energy isolation device shall be located as close as possible to the device in a position that will be immediately obvious to anyone attempting to operate the equipment).

E Isolating Equipment

- All potentially hazardous stored or residual energy shall be relieved, disconnected, restrained or otherwise rendered safe (by testing) equipment for stored or potential energy. (See Part G of this section.)

(Note: Push buttons, selector switches and other control type devices and the removal of air supply to an automatic valve are not energy isolating devices (with the exception of air to open positive shut off automatic valves where the air supply can be locked out).

F. Attaching Lockout/Tagout Devices

- Apply hasp, lock and tag. Assure the hasp and locks have been attached along

with the tag in such a manner that the energy source can not be energized accidentally.

- Tag Out is used only when the equipment/machine will not accept locks - Each Authorized Employee places a personnel lock/tag on the energy isolator device before beginning work.
- The equipment is now locked and tagged out.

G. Releasing Stored Energy

- After lockout/tagout devices are in place, the stored (potential) energy sources involved with the equipment (e.g. electrical, gravitational, mechanical, and/or thermal energy) are disconnected/drained or otherwise made safe by blocking or repositioning components.

This may include:

1. Releasing pressurized hydraulic, air, steam, gas or water lines.
2. Discharging electrical capacitors.
3. Releasing of spring loaded systems.
4. Blocking any rotating, swinging or elevated parts.

H. Verifying Isolation

- The Authorized Employee verifies that hazardous energy sources are isolated before maintenance/service begins. This includes situations where LO/TO lasts more than one day. LO/TO must be re-verified. Verifying that hazardous energy sources are isolated is usually accomplished by turning the normal operating controls for the equipment to the "on" position (and then turning it off again).

I. Performing Work

- After verifying that the equipment or machine has been isolated, Authorized Employees do the service or maintenance work as scheduled.

5. Removing Locks for Testing or Positioning

When lockout/tagout (and isolating) devices must be removed during maintenance/servicing and machine/equipment and must be re-energized (e.g. repositioning), the Authorized Employee takes the following sequence of actions:

- a) Clears the machine or equipment of tools and materials.
- b) Checks the work area to ensure employees are at a safe distance away from equip.
- c) Notifies Affected Employees that LO/TO devices will be removed.

- d) Checks to see that operating controls are in "off" position.
- e) Removes his/her lockout/tagout device, as necessary. (If the Authorized Employee who attached the lock/tag is not available, the device may be removed according to the procedure described in Section # 7 - "Removal of lockout/tagout device by other than Authorized Employee".)
- f) Energizes the machine or equipment and proceeds with testing or repositioning.
- g) When testing /repositioning is completed, de-energizes the equipment or machine, applies locks and tags, etc.

6. Restoring Equipment to Normal Operation

After the servicing and/or maintenance are completed and the equipment is ready for normal operation, check the area around the machines or equipment to ensure:

- Operating controls are set to the "off" position.
- Tools and nonessential items are removed, and equipment components (e.g. guards) are in place.
- Affected Employees and other employees in the work area are warned that power is about to be restored.
- Employees are safely positioned away from the equipment/system.
- Locks or tags are removed from the energy isolating device(s) by the employees who applied them.
- The Department is contacted for special conditions or if problems arise.

After locks or tags are removed, the Authorized Employee notifies the work area Supervisor that maintenance/service is completed and returns the machine/equipment to the normal operating mode (as directed).

7. Removal of LO/TO Devices by other than Authorized Employee

Lockout/tagout devices may be removed by the Authorized Employee's immediate trade Supervisor (using a Department bolt cutter), if the Authorized Employee who applied it is not available. The Supervisor must:

- Attempt to contact the Authorized Employee who left the lock in place.
- Verify that steps 5 and 6 have been completed.

- Verify that the Authorized Employee who applied the device is not at the facility;
- Document that all reasonable efforts were made to contact the Authorized Employee to inform him/her that his/her device has been removed, and;
- Document that he/she (the Authorized Employee's Supervisor) has contacted the Manager of the area in which the lock is in place to notify and verify that the lock needs removal.
- Remove the lock/tag (this is done by the Supervisor) and;
- Document the removal of the lock by using the incident report in Archibus and;
- Inform the Authorized Employee that their lock/tag has been removed **before** the Authorized Employee resumes work at that facility.

8. Coordinating LO/TO With Outside Contractors

When the work of an outside employer involves machines or equipment with specified hazardous energy control procedures, the Owners Representative/Supervisor ensures that there is an appropriate exchange of information regarding the Lockout/Tagout procedures between the Department employees.

Personnel will be informed of any differences (i.e. restrictions and prohibitions) in the two programs, as appropriate, by the work area supervisor.

When it is necessary to de-energize sources for an outside contractors:

- Outside contractors must provide a lock (with proper identification) to be placed on isolation device.
- Contractors must comply with the appropriate contractor guidelines.
- Outside contractors must have a policy that complies with all appropriate local, state and federal regulations.

9. Employee Training

Training shall be given to all employees who perform service or maintenance on machinery or equipment where unexpected energizing, start-up or release of energy could occur and cause injury, as required by 29 CFR 1910.147 (c) (7) and 29 CFR 1910.332.

- Employees who may work in an area where this program applies are informed of

the general procedures and function of the lockout/tagout program, including the restrictions related to starting or re-energizing machines or equipment that are locked or tagged out. **Affected Employees** are further instructed on the purpose and use of the energy control procedures. Finally, **Authorized Employees** receive in-depth training regarding the Lockout/Tagout Program.

- Employee training is conducted by the Department Supervisor or other qualified trainers. Employee attendance and the date of these training sessions are recorded and filed.
- Training of authorized employees includes the topics below:
 - a) A review of the Lockout/Tagout Program.
 - b) The recognition and identification of hazardous energy sources (e.g. electrical, steam, pressure, etc.)
 - c) An explanation of lockout/tagout procedures and forms.
 - d) The steps involved when returning equipment back to service.
 - e) The correct use of lockout/tagout devices.
 - f) New hazards arise regarding lockout/tagout, such as a new or modified machine, equipment, or process.
- Training is conducted for the Affected and Authorized Employees at new hire orientation and whenever:
 - a) There is a new or revised energy control procedure.
 - b) Their job assignment changes.
 - c) The Lockout/Tagout Program is modified.

10. Special Conditions

The intent of this part is to provide continuity of lockout/tagout protection when unusual circumstances exist.

Shutdown Of Equipment For Extended Periods

If equipment that is being maintained/serviced must be shutdown for extended periods of time (i.e. awaiting parts, lack of funding, overnight, multiple shifts, etc.), the personal lockout/tagout device(s) may be removed by the Authorized Employee and the isolating device(s) will be secured by a Maintenance specific lock/tag attached by the Responsible/Lead Authorized Employee or Supervisor. When maintenance/servicing can be completed or continued under more ordinary circumstances, Authorized Employee(s) will reattach the personal lockout/tagout device(s) and the one attached by the Responsible/Lead Authorized Employee or Supervisor may be removed.

Specific procedures will be written (at the time) for special conditions such as switching.

Group Procedure for Use of Maintenance Locks versus Safety Locks

If an authorized employee leaves the site due to sickness, shift change, another job, etc., then it is the responsibility of the Supervisor involved with the locked or tagged out equipment to ensure that the continuity of the energy control procedure is maintained until the next Supervisor arrives. The continuity of the program is maintained through a Maintenance specific lock and tag attached by the original Supervisor. Locks, keys, tags and information about the lockout will be kept at the Building Engineer's office.

11. Inspection of LO/TO Procedures

The Department's Supervisor/Foreman shall conduct a periodic inspection of the energy control procedure (field inspection - see appendix D Periodic Inspection Form) at least annually to ensure that the procedure and the provisions of this section are being followed.

- The periodic inspection shall be performed by an authorized employee who is not using the energy control procedure being inspected.
- The periodic inspection shall be designed to identify and correct any deviations or inadequacies.
- If lockout is used for energy control, the periodic inspection shall include a review, between the Supervisor and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.
- Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected, and the elements set forth in this section.
- The Department's Supervisor/Foreman shall certify through documentation on the Department Periodic Inspection Form (see appendix D) that the inspections required by this section have been accomplished. The certification shall identify the machine or equipment on which the energy control procedure was being used, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

APPENDIX A – Departmental Lockout Procedure

Equipment Name:	Date Written:
Operating Unit:	Date Revised:
Location:	

LOCKOUT STEPS

1. Determine responsibilities – Pre Job Plan.
2. Know the types and magnitude of hazardous energy.
3. Shut down/turn off the equipment.
4. Isolate the equipment from hazardous energy.
5. Apply the lockout - devices/locks.
6. Relieve stored energy.
7. Verify isolation – try to start the equipment.

RELEASE FROM LOCKOUT

1. Remove non-essential materials.
2. Make sure all employees are safely positioned and notified.
3. Remove locks and devices. Personal locks may only be removed by their owners.
4. For exceptions follow LO/TO program section 7 (removal of LO/TO devices by other than Authorized Employee).

List Hazardous Energy:

LOCKOUT STEPS	<i>Initial White Blocks</i>		
	VERIFIED	LOCKED	UNLOCKED
1. Step 1			
2. Step 2			
3. Step 3			
4. Step 4			
5. Step 5			

6. Step 6			
7. Step 7			
VERIFY ISOLATION – TRY TO START EQUIPMENT			
<i>COMMENTS AND SUGGESTED REVISIONS:</i>			
VERIFY JOB IS COMPLETE AND ALL LOCKS HAVE BEEN REMOVED	SIGNATURE:	DATE:	TIME:

APPENDIX B (Reserved)

APPENDIX C (Reserved)

APPENDIX D

**Departmental Periodical LO/TO
Inspection Form**

Operating Unit: _____

Date: _____

Inspector Name: _____

Time: _____

Equipment Name: _____

Procedure Name/Number: _____

Location: _____

1. Is the LOTO procedure written for the equipment? Yes No
If no – contact Supervisor/Foreman to develop procedure.
2. Is the proper procedure posted at the work site? Yes No
3. Are all applicable procedural steps initialed and completed, or explanation written in the comment section why a step was skipped? Yes No
If no –stop work and immediately contact Lead/Responsible individual to verify and correct.
4. Are all energy isolation points identified on the procedure appropriately shut off and locked with Departmental area locks and tagged? Yes No
If no – stop work immediately and contact Lead/Responsible individual to lock and tag isolation points.
5. Do all Authorized Employees who are working on the equipment have their personal lock and tag on the lock box, or, personal locks/tags on each energy isolation point? Yes No
If no – stop work and immediately correct - have the individual place his/her lock(s)/tag(s) on.

Review inspection results and responsibilities with each Authorized Employee

General Information:

1. Have all authorized employees in the above referenced operating unit received LO/TO training within the past year?
If not, who missed and when will it be made-up?
Have procedures been written and verified for all multiple energy source pieces of equipment (i.e. chillers, etc...)?
If not, complete a list of what equipment is left and an action plan for completion?

Inspector Signature: _____

Name of Authorized Employees performing work on equipment:

_____	_____
_____	_____
_____	_____

*****Complete and send to The Departmental Safety Officer, FAX: 651-296-0579*** **KEEP COPY IN YOUR FILES*****