LOCKOUT/TAG OUT PROCEDURES

1. Purpose and Scope

The purpose of the Commonwealth University of Pennsylvania Lockout/Tagout (LOTO) Program is to establish requirements and procedures for the control of hazardous energy during servicing and maintenance activities. This program is designed to prevent injuries caused by the unexpected energization, startup, or release of stored energy from machines, equipment, or systems.

This program establishes the responsibilities, authorization requirements, training requirements, and procedures to ensure employees are protected from hazardous energy sources in accordance with OSHA 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

All Commonwealth University employees who perform servicing or maintenance activities involving hazardous energy, as well as employees who work in areas where lockout/tagout procedures are implemented, shall comply with the requirements of this program.

Department heads are responsible for ensuring employees under their supervision are trained on applicable lockout/tagout requirements and that required training records are maintained.

2. Definitions

Affected Employee: An employee whose job duties require operation or use of a machine or piece of equipment that is being serviced under lockout/tagout procedures, or an employee whose work requires them to be present in an area where servicing or maintenance activities requiring lockout/tagout are being performed.

Authorized Employee: An employee who is trained and authorized to apply lockout or tagout devices to machines, equipment, or systems in order to perform servicing or maintenance activities. An authorized employee may also be an affected employee when their job duties include performing servicing or maintenance requiring hazardous energy control.

Energy-Isolating Device: A mechanical device that physically prevents the transmission or release of energy. Examples include, but are not limited to:

- Electrical circuit breakers
- Disconnect switches
- Line valves
- Blocking devices
- Mechanical isolation devices

Push buttons, selector switches, and other control circuit devices are not considered energy-isolating devices.

Energy Source: Any source of energy that could cause injury, including:

- Electrical
- Mechanical
- Hydraulic
- Pneumatic
- Chemical
- Thermal
- Gravitational
- Stored or residual energy

Lockout: The placement of a lockout device on an energy-isolating device in accordance with an established procedure to ensure the equipment cannot be operated until the lockout device is removed.

Lockout Device: A device that uses a positive means, such as a lock, to secure an energy-isolating device in a safe position and prevent energization of equipment.

Normal Production Operations: The use of a machine or piece of equipment to perform its intended function.

Primary Authorized Employee: The authorized employee responsible for coordinating lockout/tagout activities when multiple employees are performing servicing or maintenance activities under a group lockout procedure.

Tagout: The placement of a warning tag on an energy-isolating device or lockout device to identify that the equipment is not to be operated until the tag and associated lockout controls have been removed in accordance with approved procedures.

Tags are warning devices only and do not provide the physical restraint provided by a lock.

3. Program Authorization and Responsibilities

A Commonwealth University Environmental, Health and Safety department shall administer this program and authorize its implementation across university departments and operations where hazardous energy control is required.

- Department heads are responsible for:
- Implementing this program within their areas of responsibility.
- Ensuring employees receive required training.
- Ensuring site-specific energy control procedures are developed when necessary.
- Ensuring appropriate lockout/tagout equipment is available.
- Maintaining required training documentation.

Department heads may delegate these responsibilities to qualified individuals; however, the department head retains responsibility for ensuring compliance with this program.

Only employees who have been trained and authorized by their department may apply lockout or tagout devices.

Each department performing servicing or maintenance activities involving hazardous energy shall establish equipment-specific energy control procedures when required.

4. Lockout and Tagout Requirements

Lockout shall be the primary method of hazardous energy control whenever an energy-isolating device is capable of accepting a lockout device.
Tagout may only be used when:

1. The energy-isolating device cannot accept a lockout device; or
2. The department has evaluated the situation and determined that tagout provides employee protection equivalent to lockout.

When tagout is used on an energy-isolating device capable of being locked, the tag shall be applied at the same location where the lock would have been installed.
Lockout/tagout devices shall only be used for hazardous energy control purposes and shall not be used for any other purpose.

5. Identification of Lockout Devices and Tags

Each lockout device shall be accompanied by a standardized lockout/tagout identification tag.
The tag shall include:

- Name of the Authorized Employee applying the device.
- Date the lockout was initiated.
- Applicable equipment identification or additional information required by the Office of Workplace Safety.

The purpose of the tag is to identify the individual responsible for the lockout and provide information regarding the energy control activity.
The tag shall remain attached until the lockout device is removed by the Authorized Employee who applied it or removed in accordance with the University's approved lock removal procedure.

6. Use of Tagout Devices and Red Cable Ties

Tagout devices shall:

- Clearly identify the Authorized Employee responsible for the energy control activity.
- Be durable and capable of withstanding workplace environmental conditions.
- Be securely attached to prevent accidental removal.
- Not be bypassed, ignored, or defeated.

Approved red, non-reusable, self-locking nylon cable ties may be used only for securing lockout/tagout tags when no other approved attachment method is available.
Red cable ties shall:

- Meet the requirements of OSHA 29 CFR 1910.147.
- Be non-reusable and self-locking.
- Be capable of resisting accidental removal.

Red cable ties shall not:

- Be used as a replacement for an approved lockout device.
- Be used as a means of isolating hazardous energy.
- Be considered an acceptable substitute when an energy-isolating device can be locked.

7. Periodic Inspection of Energy Control Procedures

The Director of Workplace Safety or their designated representative shall conduct periodic inspections of energy control procedures at least annually to ensure compliance with OSHA 29 CFR 1910.147 and the requirements of this program.
Periodic inspections shall include:

- Verification that energy control procedures are being followed.
- Identification of any deficiencies or deviations from established procedures.
- Correction of identified deficiencies.

- Confirmation that authorized employees understand their responsibilities under the program.

The inspection shall be documented and shall identify:

- The equipment or procedure inspected.
- The date of inspection.
- The employees included in the inspection.
- The individual performing the inspection.
- Any corrective actions required.

8. Training Requirements

Department heads or their designated representatives shall provide training to ensure employees understand the purpose, function, and requirements of the University's hazardous energy control program.

Training shall ensure employees have the knowledge and skills necessary for the safe application, use, and removal of lockout/tagout devices.

Training shall be provided as follows:

Authorized Employees

Authorized employees shall receive training on:

- Recognition of applicable hazardous energy sources.
- The type and magnitude of energy present in the workplace.
- Methods and procedures necessary to isolate and control hazardous energy.
- Proper application, use, verification, and removal of lockout/tagout devices.
- Equipment-specific energy control procedures.

Affected Employees

Affected employees shall receive training on:

- The purpose and use of energy control procedures.
- Recognition of lockout/tagout devices.
- Prohibition against attempting to restart or energize equipment that has been locked or tagged out.

Other Employees

Employees who may work in areas where lockout/tagout procedures are used shall receive instruction regarding:

- The purpose of the energy control program.
- Recognition of lockout/tagout devices.
- The prohibition against removing, bypassing, or interfering with lockout/tagout devices.

9. Tagout Training Requirements

When tagout systems are used, employees shall be trained regarding the limitations of tags, including:

- Tags are warning devices only and do not provide the physical restraint provided by a lockout device.
- Tags shall not be removed without authorization from the Authorized Employee responsible for the tag.
- Tags shall never be bypassed, ignored, or defeated.
- Tags must be understandable and recognizable to all employees.
- Tags and attachment methods must be durable enough to withstand workplace conditions.
- Tags may provide a false sense of security and must be understood as only one part of the overall hazardous energy control program.
- Tags must be securely attached to prevent accidental or unintended removal.

10. Retraining Requirements

Retraining shall be provided whenever:

- An employee's job assignment changes.
- New equipment or processes create new hazards.
- Energy control procedures change.
- An employee demonstrates inadequate knowledge or improper use of lockout/tagout procedures.

Retraining shall reinforce employee understanding and ensure continued proficiency with hazardous energy control procedures.

The department shall maintain documentation of completed training. Training records shall include:

- Employee name.
- Date of training.
- Description of training provided.
- Trainer or instructor identification.

11. Lockout/Tagout Application Procedures

Only Authorized Employees may apply or remove lockout/tagout devices.

Affected employees shall be notified before lockout/tagout devices are applied and after devices have been removed and equipment has been returned to service.

The following steps shall be followed when applying hazardous energy controls:

1. Preparation for Shutdown

Before shutting down equipment, the Authorized Employee shall:

- Identify all energy sources.
- Determine the type and magnitude of energy present.
- Identify hazards associated with the energy source.
- Determine the appropriate method of energy isolation.

2. Equipment Shutdown

The equipment shall be shut down using normal operating procedures to prevent additional hazards caused by equipment de-energization.

3. Energy Isolation

All energy-isolating devices required to control hazardous energy shall be identified and operated to isolate the equipment from all energy sources.

4. Application of Lockout/Tagout Devices

Authorized employees shall apply lockout or tagout devices to each energy-isolating device.

When lockout is used:

- Locks shall be installed to secure energy-isolating devices in the safe or off position.

When tagout is used:

- Tags shall be installed in a location that clearly identifies the equipment as unavailable for operation.
- Tags shall clearly communicate that operation of the equipment is prohibited.

When a tag cannot be attached directly to the energy-isolating device, it shall be located as close as safely possible where it is immediately visible to anyone attempting to operate the device.

12. Control of Stored Energy

Following application of lockout/tagout devices, all potentially hazardous stored energy shall be relieved, disconnected, restrained, or otherwise rendered safe.

Examples include:

- Releasing trapped pressure.
- Blocking elevated equipment.
- Discharging electrical capacitors.
- Allowing hot systems to cool.
- Securing moving components.

If stored energy may accumulate again to a hazardous level, verification shall continue throughout the servicing activity until work is complete.

13. Verification of Isolation

Before beginning work, the Authorized Employee shall verify that:

- Equipment has been properly isolated.
- All energy sources have been controlled.
- Stored energy has been released or restrained.
- Equipment cannot be restarted.

Verification may include:

- Attempting normal equipment operation controls.
- Testing electrical circuits using appropriate testing equipment.
- Confirming zero energy state.

After verification, all controls shall be returned to the neutral or off position.

14. Release from Lockout/Tagout

Before lockout/tagout devices are removed and equipment is returned to service, the Authorized Employee shall ensure:

Equipment Inspection

The work area shall be inspected to verify:

- Tools and materials have been removed.
- Guards and safety devices have been reinstalled.
- Equipment components are intact and ready for operation.

Employee Safety

The Authorized Employee shall ensure:

- All employees are safely positioned or removed from the equipment area.
- Affected employees are notified before equipment is re-energized.

Removal of Lockout/Tagout Devices

Each lockout/tagout device shall be removed by the Authorized Employee who applied it.

15. Authorized Employee Lock Removal Exception

If the Authorized Employee who applied a lockout/tagout device is unavailable, the device may only be removed under the direction of the employee's immediate supervisor or designated responsible person.

The removal process shall include:

1. Verification that the Authorized Employee is not present at the facility.
2. Reasonable attempts to contact the Authorized Employee and notify them that their device has been removed.

3. Confirmation that the Authorized Employee is aware of the removal before returning to work.

Each department performing lock removal under this exception shall maintain documented procedures and training demonstrating equivalent protection.

16. Testing or Positioning of Equipment

When lockout/tagout devices must temporarily be removed to test or position equipment, the following sequence shall be followed:

1. Remove tools and materials from the equipment area.
2. Ensure employees are clear of the hazard area.
3. Remove lockout/tagout devices.
4. Energize equipment and perform required testing or positioning.
5. De-energize equipment and reapply lockout/tagout controls before continuing servicing activities.

Lockout/Tagout Lock Removal Authorization Form

Equipment/System Name: _____

Location: _____

Building/Area: _____

Reason for Lock Removal Request:

☐ Authorized employee is unavailable
☐ Authorized employee is no longer on site
☐ Emergency operational need
☐ Other: _____

Description of Work/Service Activity:

_____

_____

_____

Employee Whose Lock Is Being Removed

Employee Name: _____

Department: _____

Lock Identification Number/Color: _____

Date Lock Applied: _____

Employee Contacted Prior to Removal?

☐ Yes
☐ No – Reason: _____

If contacted, employee confirmed lock can be removed:

☐ Yes
☐ No
☐ Not Applicable

Verification Prior to Lock Removal

The following items must be verified before removing another employee's lock:

☐ The authorized employee who applied the lock has been notified that their lock is being removed, when possible.

☐ A reasonable effort has been made to contact the authorized employee.

☐ The authorized employee is not present at the equipment or system.

☐ The authorized employee is not exposed to hazardous energy.

☐ The equipment/system has been inspected and verified safe for lock removal.

☐ All other required locks, tags, and energy control measures remain in place.

☐ The authorized employee will be notified before returning to work or attempting to apply their lock again.

Supervisor Approval

Supervisor Name: _____

Department: _____

Signature: _____

Date: _____ **Time:** _____

Facilities Operations Manager Approval

I have reviewed this request and verified that the lock removal process has been completed according to University Lockout/Tagout requirements.

Facilities Operations Manager Name: _____

Signature: _____

Date: _____ **Time:** _____