



Section 208: Lock Out Tag Out - Energy Control Program is part of the OSU Safety (SAF) Policy and Procedures Manual.

General

- **Purpose** of the OSU energy control program is to clearly define procedures for the control of hazardous energy.
- **Procedures cover** the servicing and maintenance of equipment in which the unexpected energizing, start up, or release of stored energy could cause serious injury to employees.
- **All sources of energy** need to be considered, including electrical, mechanical, hydraulic, pneumatic, chemical, gravitational, and thermal energy.
- The **primary method of control** of hazardous energy will be using lockout/tagout procedures.
- **The basic rule mandates that all equipment shall be locked or tagged to protect against accidental or inadvertent operation when such operation could cause injury to personnel.**

Responsibilities

- **Supervisors** are responsible for identifying equipment having the characteristics as defined above and for providing instruction in the lockout/tagout procedures to employees who work on that equipment. Training materials are available through EH&S.
- **Employees trained in lockout/tagout** procedures will be designated as **authorized** employees.
- **Employees working on or around equipment** but not trained in the lockout/tagout procedures will be known as **affected** employees.

Definitions

- **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.
- **Authorized employee:** An employee who locks or tags machines or equipment in order to perform servicing or maintenance.
- **Capable of being locked out:** An energy-isolating device is considered capable of being locked out if it:
 - Is designed with a hasp or other means of attachment to which a lock can be affixed,
 - Has a locking mechanism built into it,
 - Can be locked without dismantling, rebuilding, or replacing the energy-isolating device or permanently altering its energy control capability.
- **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 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.
- **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.
- **Normal production operations:** Utilization of a machine or equipment to perform its intended production function.
- **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

Contact EHS:
safety@oregonstate.edu
oregonstate.edu/ehs/
 541 • 737 • 2273

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.

Lockout versus Tagout

- **Lockout** shall be the exclusive method used for the isolation of all energy sources which are designed to accept a locking device.
- **Tagout devices** such as tags or signs must be used if a locking device cannot be attached to the control switch or valve
 - Tags and their means of attachment are to be substantial enough to prevent inadvertent or accidental removal
 - Nylon cable ties are the recommended method of tag attachment
- Whenever **major replacement**, repair, renovation, or modification of equipment is performed, and whenever new equipment is installed, the energy control switch or valve for that equipment **shall be able to accept a locking device**.

Sequence of Procedures

- Sequence of lockout or tagout procedures to be followed:
 - in all cases in which an employee is required to remove or bypass a guard or other safety device.
 - if an employee is required to place any part of his/her body into an area on a piece of equipment at the point of operation or where an associated danger exists during an operating cycle.
 1. Notify **all** employees within the immediate affected area that a lockout or tagout is going to be utilized and the reason why.
 2. If the equipment is operating, shut it down by the normal stopping procedure.
 3. Operate the switch, valve, or other energy isolating device(s) so that the equipment is isolated from its energy source(s).
 4. Lockout and/or tagout the energy isolating devices with **assigned** individual lock(s) or tag(s)
 - Lockout devices and tagout devices are to indicate the identity of the employee applying the device(s).
 - Following the application of lockout or tagout devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, or otherwise rendered safe.
 5. At this point the equipment is considered to be locked or tagged out.
 6. If lockout is the energy control method utilized, the authorized employee is to keep the key in his/her possession for the duration of the lockout period.

Restoring Equipment to Normal Operational Status

- Before lockout/tagout devices are removed and energy is restored to the equipment, the following steps shall be taken by the employee:
 - Inspect the work area to ensure that non-essential items have been removed and ensure that machine or equipment components are operationally intact.
 - Check the work area to ensure that all employees have been safely positioned or removed.
 - Before lockout or tagout devices are removed and before the equipment is energized, affected employees in the immediate area shall be notified that the lockout or tagout device will be removed.

Lockout/Tagout Device Removal

- Each safety lockout or tagout device may only be removed by the employee who applied the device with one exception
- Removal of a safety lockout or tagout device by any other person than who applied the device may only be done by the direction of a supervisor under the following procedure:
 - The supervisor must verify that the authorized employee who applied the device is not at the facility.
 - The authorized employee is to be informed that the lockout/tagout device has been removed before he/she resumes work at the facility.

Procedure Involving More Than One Person

- In the preceding steps, if more than one individual is required to lockout or tagout the same equipment, each shall place his/her own personal lockout device or tagout device on the energy isolating device(s).
- When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) is to be used.
- When more than one authorized person has implemented lockout/tagout in order to assist in the servicing or maintenance of equipment, only the person who applies the first lock and the person who removed the last lock will be required to notify employees in the immediate affected work area of the application and removal of lockout/tagout devices.

Testing or Positioning of Equipment or Components

- In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the equipment energized to test or position the equipment or one of its components, the authorized employee will comply with the following:
 - Clear the machine or equipment of tools and materials.
 - Remove employees from the machine or equipment area.
 - Remove the lockout or tagout device.
 - Energize and proceed with testing or positioning.
 - De-energize all systems and reapply the appropriate energy control device.

Outside Personnel (Contractors)

- Whenever outside personnel are to be engaged in activities requiring the control of hazardous energy, they must use a lockout/tagout program.
- OSU construction inspector and the outside contractor are to inform each other of their respective lockout or tagout procedures.

Periodic Inspection

- The supervisor of each OSU unit that uses lockout/tagout will perform an annual inspection of the energy control procedure in the work unit to ensure that the procedure and the requirements of OR-OSHA lockout/tagout rules are being followed:
 - The annual inspection will be designed to correct any deviations or inadequacies observed, and will include a review, with each employee, of that employee's responsibilities under the energy control procedure being inspected.
 - The supervisor will document that the periodic inspections have been performed.
 - The documentation will identify the equipment on which the energy control procedure was being utilized and the inspection date, employees included, and inspector name.

Training and Communication

- Training will be provided to ensure that the purpose and procedures of the energy control program are understood by employees and that the knowledge and skill required for the safe application, usage, and removal of lockout/tagout devices are conveyed to employees.
- The training will include the following:
 - Each *authorized employee* will receive training by their supervisor in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.
 - Each *affected employee* will be instructed by their supervisor in the purpose and use of the energy control procedure.
 - *Other employees* (those whose work activities are or may be in an area where energy control procedures may be utilized) must be instructed about the procedure and about the prohibition relating to attempts to restart or reenergize machines or equipment that are locked out or tagged out.

Minimum Training Requirements for Tagout

- Authorized employees will be trained in the following limitations of tags:

- Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
- When a tag is attached, it is not to be removed except by the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
- In order to be effective, tags must be legible and understandable by all employees whose work operations are or may be in the area.
- Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
- Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Employee Retraining

- Retraining will be conducted whenever a periodic inspection reveals, or whenever there is reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of an energy control device.
- Supervisors will document that employee training has been accomplished.