

The control of hazardous energy (Lockout/Tagout)

OAR 437 • Division 2/J



General-Industry Requirements

OSHA's standard for **The Control of Hazardous Energy (Lockout and Tagout)**, [1910.147](#), requires that hazardous energy be controlled during service and maintenance activities. These activities include the installation, setup, adjustment, inspection, modification, and routine maintenance or servicing of equipment. Hazardous energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, gravity, and thermal. Equipment must be isolated from its energy source and rendered inoperative to prevent injury or death from unanticipated, uncontrolled hazardous energy. (Control-circuit type devices are not energy-isolation devices.) Cord-and-plug-connected equipment is not covered under the standard if it's unplugged, the plug is under the exclusive control of the operator, and electricity is the only form of hazardous energy.

Employers must develop and enforce an energy control program that consists of energy-control procedures, employee training, and periodic inspections. Requirements include:

- Use lockout devices for equipment that *can* be locked out; the key must be unique to the device and under the control of each employee working on the equipment.
- Provide tagout devices instead of lockout devices only if the tagout program provides employee protection equivalent to a lockout program.
- Provide additional safety measures such as the removing an electrical circuit.
- Provide durable and standardized lockout and tagout devices and hardware. Devices must identify who applied them and may not be used for other purposes.
- Establish written procedures that permit only the employee who applied a lockout or tagout device to remove it. Procedures must include provisions for device removal when the employee is not available.
- Inspect energy-control procedures at least annually.

Lockout and Tagout Devices

Lockout devices hold energy-isolation devices in an off position. They provide protection by preventing equipment from energizing because they are restraints that no one can remove without a key or by destroying the lockout device through extraordinary means such as a bolt cutter.

Tagout devices are prominent warning devices fastened to energy-isolation devices to warn employees not to reenergize equipment that is being serviced. Tagout devices are easier to remove and provide employees with less protection than lockout devices.

Training

All employees must be trained to know basic hazardous-energy concepts and the purpose of the devices used to control it. They should also know what tasks might expose them to hazardous energy and how it can be controlled.

Training requirements depend on whether employees service equipment or just work near it while it is being serviced. *Authorized employees* service equipment and *affected employees* work in areas where the equipment is serviced.

Authorized employees required training:

- How to identify and isolate hazardous energy sources
- How to identify the types and magnitudes of energy used in the workplace

Affected employees required training:

- The purpose of energy control procedures
- How energy control procedures are applied
- How energy control procedures will protect them

An affected employee becomes an authorized employee when the employee is assigned to perform service or maintenance on the equipment.



Energy-Control Procedures

Employers must document procedures for the control of hazardous energy sources for use by authorized employees who lockout or tagout equipment to perform service and maintenance. The lockout procedures for equipment with one or more hazardous energy sources must include the following:

- The intended use of the procedure.
- Steps for shutting down, isolating, blocking, and securing equipment.
- Steps for the placement, removal, and transfer of lockout devices.
- Equipment-testing requirements to verify the effectiveness of the energy-control measures.

Employers do not need to document the required energy-control procedure when all of the following conditions exist and no accidents involving the unexpected activation or re-energization of equipment have occurred.

- A single source of energy can be readily identified and isolated; locking out the energy source completely de-energizes and deactivates equipment.
- The lockout device is under the exclusive control of the authorized employee.
- No potential for stored or residual energy or re-accumulation of stored energy exists that could harm employees after shutdown

When re-energization is required as part of a service activity, temporary removal of lockout or tagout devices is allowed. This temporary exemption applies in limited situations and only for the time required to perform the task.

Requirements for controlling hazardous energy

- Notify affected workers
- Identify energy sources and energy-isolating devices
- De-energize equipment
- Secure energy-isolating devices in a safe position
- Dissipate or restrain potential energy that can't be isolated
- Verify equipment isolation by starting or testing.

When multiple people are involved in service or maintenance, group lockout is permitted. It is also permissible to transfer lockout or tagout devices during shift changes when written procedures are followed.

Requirements for returning equipment to service:

- Inform co-workers that lockout or tagout devices will soon be removed
- Remove tools and replace all equipment components
- Ensure all workers are clear of the equipment
- Verify power controls are off or in a neutral position
- Remove the lockout or tagout device and re-energize equipment

Periodic Inspection

At least annually, employers must inspect and certify *all* energy-control procedures. Authorized employees other than those using the procedures being inspected must perform the inspections. The inspection certification must identify the equipment, inspection date, person performing the inspection, and all employees included in the inspection. Inspections must verify all of the following:

- Lockout and tagout procedures are adequate.
- Authorized and affected employees know their procedure responsibilities.
- Procedures are being followed.

Resources

[Division 2/J, General Environmental Controls](#)

[Division 2/S, Electrical](#)

[Oregon OSHA's Guide to Controlling Hazardous Energy](#)

[Federal OSHA's Control of Hazardous Energy](#)

The Technical Section of Oregon OSHA produced this fact sheet to highlight health and safety programs and rules. The information is intended to supplement the rules and provide best practices to employers.