

Lockout/Tagout

OAR 437
Division 2/J

The Control of Hazardous Energy (Lockout/Tagout)

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General-Industry Requirements

The OR-OSHA standard for **The Control of Hazardous Energy (Lockout and Tagout)**, 29 CFR 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 machines or equipment. Hazardous energy sources include electrical, mechanical, hydraulic, pneumatic, chemical, gravity, and thermal. Machines or equipment must be isolated from their 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 machines or equipment are not covered under the standard if they are unplugged, the plug is under the exclusive control of the operator, and electricity is the only form of hazardous energy.



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

- 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 that provided by a lockout program.
- Require additional safety measures such as the removal or isolation of an electrical circuit or blocking a control switch for a tagout program.
- Ensure new or existing equipment undergoing major repairs, renovations, or modifications is capable of being locked out.
- Provide durable, substantial, and standardized lockout and tagout devices and hardware. Lockout and tagout 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; 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 a "safe" or "off" position. They provide protection by preventing equipment from becoming energized 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.

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 isolation or 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.



An employer need not document the required energy-control procedure when all of the following conditions exist and no accidents involving the unexpected activation or reenergization 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 employee performing the service or maintenance.
- No potential for stored or residual energy or reaccumulation of stored energy exists that could harm employees after shutdown; the service or maintenance activity does not create hazards for other employees.

When reenergization is required as part of a service activity (power is needed to test or position machines, equipment, or components) the 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. The procedure must be documented.

What workers must do before they begin service or maintenance activities:

1. Inform all affected employees of equipment shutdown.
2. Shut down equipment.
3. Isolate or block hazardous energy.
4. Remove any potential (stored) energy.
5. Lockout or tagout the energy source(s).
6. Verify the isolation and de-energization of equipment.

When multiple persons (crew, craft, department, etc.) are involved in the service or maintenance of equipment, group lockout is permitted under 1910.147(f)(3). The standard also allows for the transfer of lockout or tagout devices during shift changes when written procedures are in place.

What workers must do before removing lockout or tagout devices and re-energizing equipment:

1. Remove tools and replace machine or equipment components.
2. Inform coworkers about energy-control device removal.
3. Ensure all workers are clear of the work area.
4. Verify machine or equipment power controls are off or in a neutral position.
5. Remove the lockout or tagout device.
6. 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, and include the date of the inspection, the person performing the inspection, and all employees included in the inspection. The authorized inspectors must review and verify that **all**:

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

Training

The employer must provide training that is understandable to the employee and ensure that employees acquire the skills to safely apply, use, and remove lockout and tagout devices. Keep and maintain training records that includes each employee's name and training date(s).

Train authorized employees on the purpose and use of the energy-control procedures, how to recognize hazardous-energy sources (type and magnitude), and the methods necessary to control and isolate the energy source.

Employees who operate equipment being serviced under lockout or tagout procedures or who work in an area where the service activity occurs (affected employees) must be trained to recognize when an energy-control procedure is being used. They should understand the purpose of the procedure and the importance of not tampering with lockout and tagout devices and not starting or using locked or tagged-out equipment.

Retraining is necessary when there is a change in energy-control procedures, machines, equipment, or processes, or when an inspection reveals or an employer has reason to believe that shortcomings exist in an employee's knowledge about the energy-control procedure.

Working by the Rules

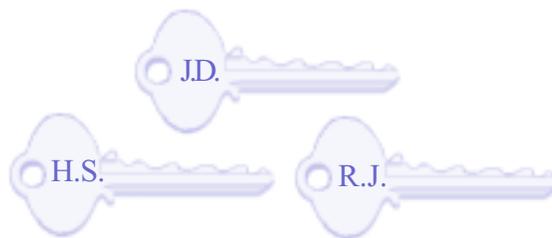
Lockout and tagout rules apply to all Oregon employers and include construction, agriculture, and maritime employment. Employers may need to meet requirements other than 1910.147. For example, electrical installations and utilization equipment are covered under Division 2/S, **Electrical**. See OR-OSHA's Guide to Controlling Hazardous Energy, www.cbs.state.or.us/external/osha/pdf/pubs/3326.pdf, for an overview of rules that contain requirements for the control of hazardous energy.

Resources

For the full text of OR-OSHA rules for lockout and tagout, refer to ORAR 437, Division 2/J, The Control of Hazardous Energy. Industry-specific standards are also found at Oregon OSHA's Web site, www.orosha.org. (Rules/Laws)

Related resource links

- www.osha.gov/SLTC/controlhazardousenergy/index.html
- www.cbs.state.or.us/external/osha/pdf/pds/pd-156.pdf



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