

## Lockout/Tagout – OSHA Standard 29 CFR 1910.147

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### Energy Control Procedure

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Includes a statement of intended use of the procedure, for all machines and equipment covered by this standard.

The employee who locks or tags a machine before performing service or maintenance (the authorized employee) must:

- Notify all affected employees (those who work on or in the area of the machine that is being locked/tagged out) before applying lockout and tagout devices.
- Know the type and magnitude of energy, the hazards of the energy, and the method of controlling the energy.
- Shut down the machine.
- Physically locate all energy-isolating devices that are needed to control energy to the machine.
- Operate all energy control devices required to isolate the machine from its energy source.
- Lock or tag each energy control device in a "safe" or "off" position. If a tag is used on equipment capable of being locked out, attach it where the lock would have been attached. The tag must clearly indicate that operating or moving energy-

isolating devices is prohibited. If the tag cannot be applied directly to the energy-isolating device, it must be located as close as possible to the energy-isolating device in a position that will be immediately obvious to anyone attempting to operate the equipment.

- Render all stored or residual energy safe. If stored energy can reaccumulate to a hazardous level, continually verify throughout the servicing and maintenance that no energy can get to the machine.
- Verify that the machine has been isolated from the energy source and has been de-energized.
- Before removing the lock or tag, ensure that all nonessential items have been removed and that the machine is operationally intact; check that all employees are safely positioned; and notify all affected employees that these devices have been removed.
- Except in emergencies, locks and tags must be removed from each energy source by the employee who applied them.

### Periodic Inspection

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Period inspection is performed annually by someone other than an employee who uses the energy control procedure.

- Where lockout is used, the inspector will review the responsibilities of all authorized employees under the energy control procedure.
- Where tagout is used, the inspector will review the responsibilities of all authorized and affected employees under the energy control procedure and the elements of training discussed in the next selection.
- Tagout devices shall warn against the hazardous conditions that will occur if the machine is

OSHA Standard 29 CFR 1910.147, the lockout/tagout standard, covers situations where injury could be caused by unexpected startup, energization, or release of stored energy while a machine is being serviced or maintained. Plants are required to examine each piece of equipment to determine what energy source needs to be locked out and to develop an energy control program consisting of written

- *energy control procedures,*
- *periodic inspection,*
- *training,* and
- *additional requirements*

for outside contractors, shift changes, and others.

energized and include a warning such as DO NOT START or DO NOT OPEN.

- The inspector will certify that periodic inspections have been performed, identifying the machine on which energy is being controlled, the date of inspection, names of the employees included in the inspection, and name of the inspector.

## Employee Training

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- All authorized employees must be able to recognize hazardous energy sources, the type and magnitude of energy in the workplace, and the methods of isolating and controlling energy.
- All affected employees must understand the purpose and use of the energy control procedure(s).
- All employees who are or may be in an area where an energy control procedure may be used must understand the procedure and the fact that attempting to restart of re-energize locked or tagged-out machines is prohibited.
- Employees must be aware that a tag is not a physical restraint. They must understand the importance of having only authorized personnel remove tags and of tags being legible and understandable. They must know the durability requirements of tags and be aware of the false sense of security that tagout systems can present.
- Any affected employees must be retrained whenever the job, machines, process, or energy control procedure changes. An employee must be retrained when periodic inspection reveals inadequacies in the employee's knowledge or use of the energy control procedure(s).
- The employer must certify that employee training has been accomplished. Certification must include the names of all employees participating and the date of training.

## Additional Requirements

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- In situations where the lock or tag must be removed to test or position the machine, the authorized employee must clear the machine of tools and materials; remove employees from the area; remove the lock or tag; energize and proceed with testing or positioning; de-energize all systems; and reapply the energy control measures as outlined in the procedure.
- Whenever outside servicing personnel are to be engaged in activities within the scope of this standard, the on-site employer and outside servicing personnel must inform each other of their respective procedures, and the on-site employer must ensure that the servicing personnel understand and comply with the restrictions of the outside employer's procedures.
- When servicing and maintenance are performed by a group of employees, primary responsibility must be vested in one authorized employee for a set of employees under the protection of a group lockout device. This device must allow each authorized employee to affix his/her own lock or tag.
- Specific procedures shall be utilized during shift changes to ensure continuity of lockout or tagout protection.
- All hardware used for energy control must be durable enough to withstand the workplace environment and must be used solely for the purpose of energy control. This hardware shall be provided by the employer and standardized within the facility with respect to color, shape, and/or size. Tags must be constructed so that the environment will not cause the tag to deteriorate or the message on the tag to become illegible.
- Lockout devices must be substantial enough to prevent removal without the excessive use of force or unusual techniques, while tagout devices must possess a minimum unlocking strength of 50 pounds. Lockout and tagout devices must identify the employee applying the device.

*updated 11/01*