Lockout/Tagout

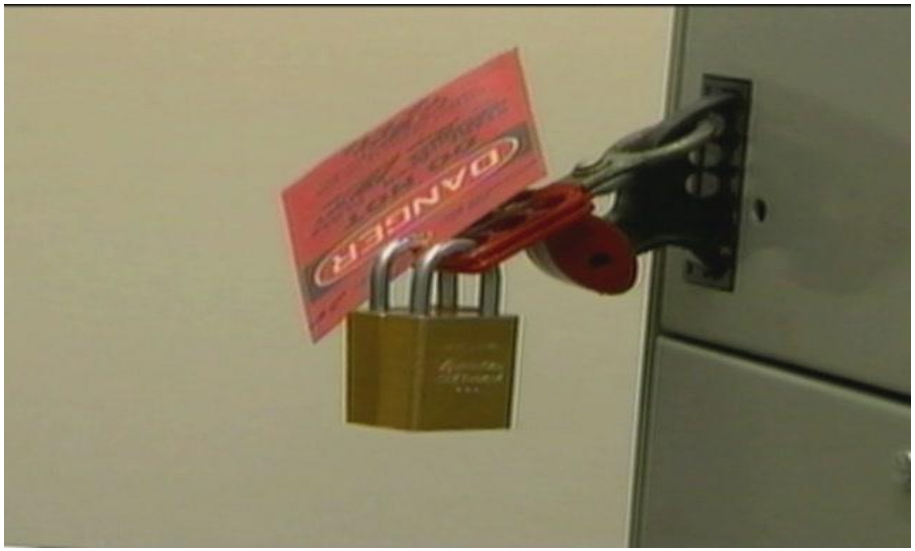
Lockout/Tagout

Lockout/Tagout is a set of safety procedures designed to reduce the risk of injury due to accidental activation of machinery or energizing of electrical systems during servicing or maintenance.

<u>Lockout</u> – Installing locks that disable power source/stored energy

<u>Tagout</u> - Installing tags to indicate warnings and dangers

Just turning the power off doesn't necessarily stop all energy from the machine.



Lockout/Tagout

Lockout/Tagout is required to ensure that, before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, start-up or release of stored energy could occur and cause injury, the machine or equipment must be isolated from the energy source and rendered inoperative.

Lockout/Tagout

OSHA estimates that each year, the Lockout/Tagout standard protects approximately 3.3 million employees working at 1 million firms and that it has reduced fatalities from unexpected activation of machinery at facilities in the auto mobile and steel making industries by 20% to 55% in the years since promulgation.

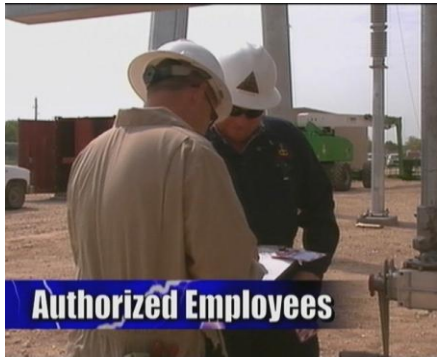
Lockout/Tagout Training:

The employer should make written procedures available that include:

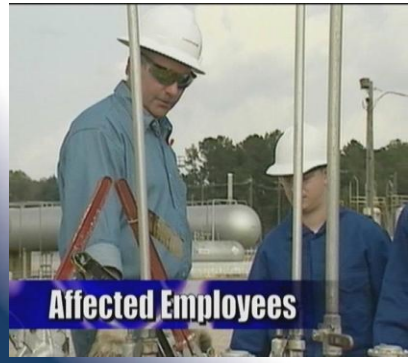
- A specific statement of the intended use of the procedure;
- Written steps for isolating, blocking and shutting down the machine or equipment;
- Specific procedural steps for the placement, removal and transfer of lockout/tagout devices; and
- Specific requirements for testing a machine or equipment to determine the effectiveness of the lockout or tagout device.

Lockout/Tagout Training:

OSHA identifies three types of employees and the training they should receive.



- **Authorized employees** are trained to know how machines are powered and the procedures necessary to lockout or tagout the machine or equipment.

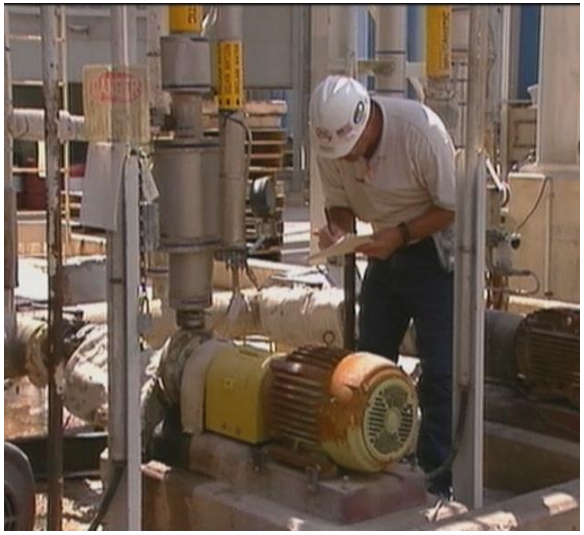


- **Affected employees** must know the purpose and procedures for energy control.

- It is important for **other employees** to understand lockout/tagout rules and to not attempt to re-energize machines that are locked out or tagged out. They, also, need to learn the limitations of tagout devices.

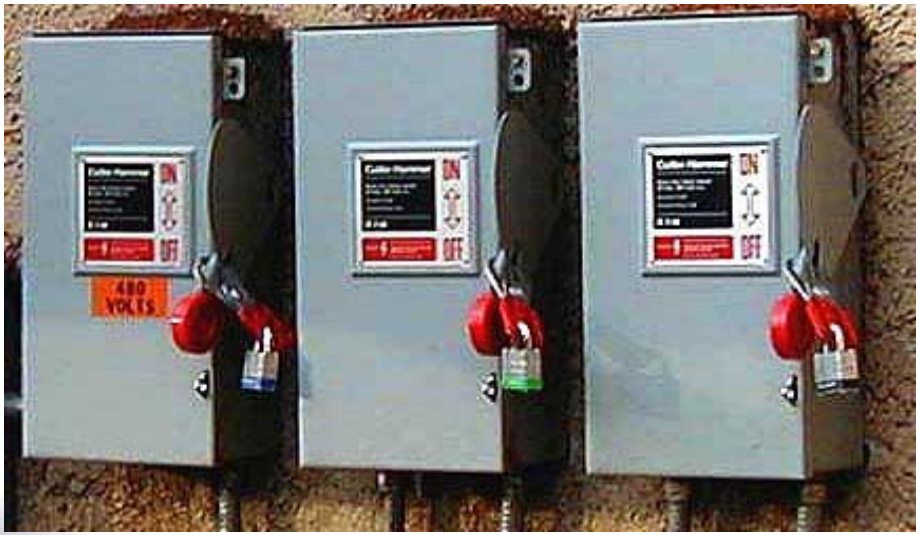
Lockout/Tagout Training:

Employees should be retrained when their job assignments change, the machines change, equipment or process creates new hazards and when energy control procedures change. An employee is also required to be retrained if, during an inspection, he/she doesn't appear to follow or fully understand the procedure.



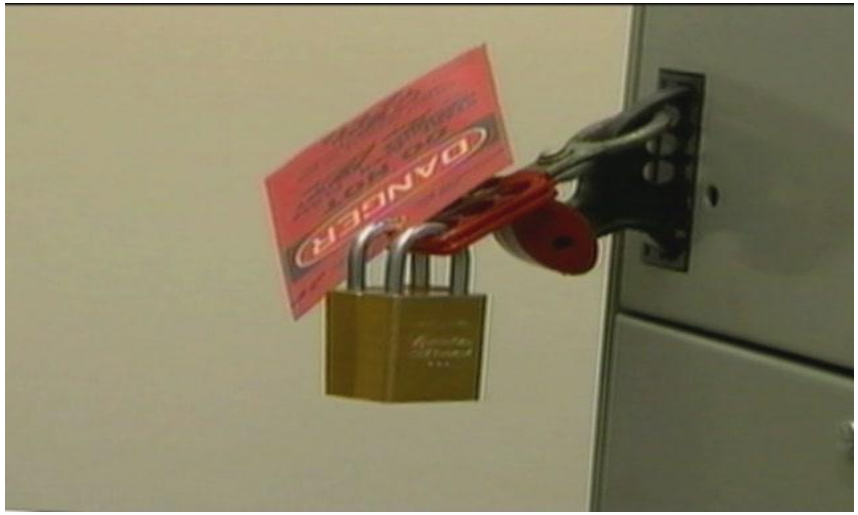
Standards for Locks and Tags

- The locks can be either keyed or combination
- Locks cannot be used for any other purpose
- The locks must be durable enough for the heat, cold, humidity or corrosiveness of the environment in which they will be used.



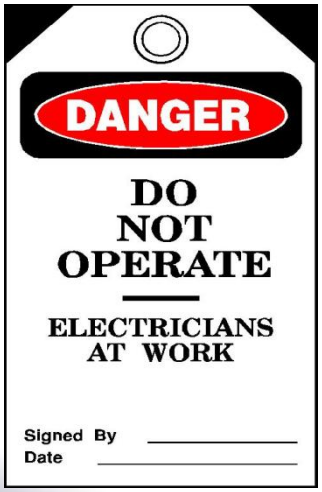
Standards for Locks and Tags

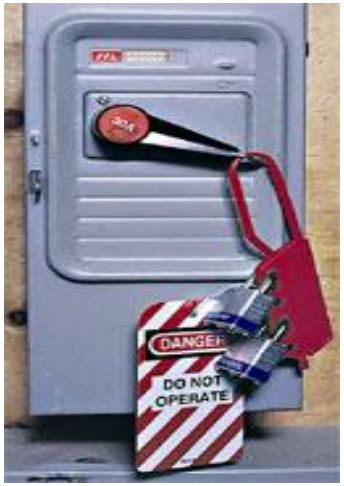
- Every lock used for the lockout procedure must be standardized within the facility in at least one of the following criteria: color, size or shape.
- Locks must be strong enough that they cannot be removed without heavy force or tools like bolt cutters.
- Each lock must identify the name of the employee who installs it.

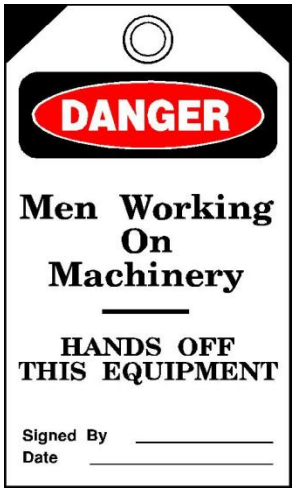


Standards for Locks and Tags

- Each tag must have the same print and format throughout the facility.
- The tags must be easy to read and understand, even if used in corrosive, dirty or damp areas.
- The tags must be tough enough that they cannot be removed easily.





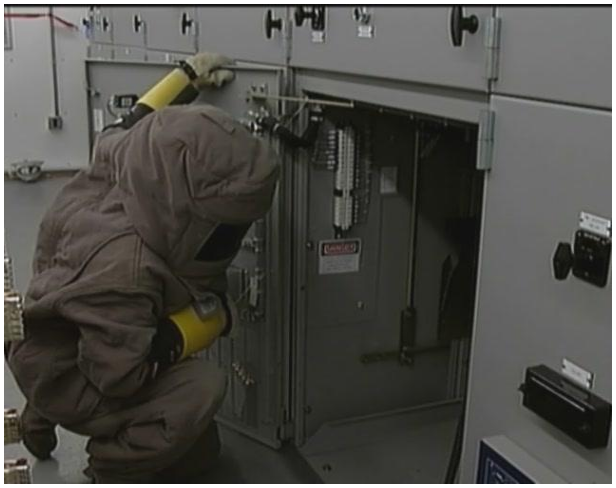


Standards for Locks and Tags

- A nylon cable must be used to attach each tag.
- The cable cannot be reusable.
- It must be able to be attached by hand.
- The cable must be self locking.
- It must be able to withstand 50 pounds of pressure before release.
- Tags don't lock out energy but only warn of the dangers. Tagout devices should include a legend such as “Do Not Start. Do Not Open. Do Not Operate.”
- The installer's name must be located on the front of the tag.

Procedures for Lockout/Tagout

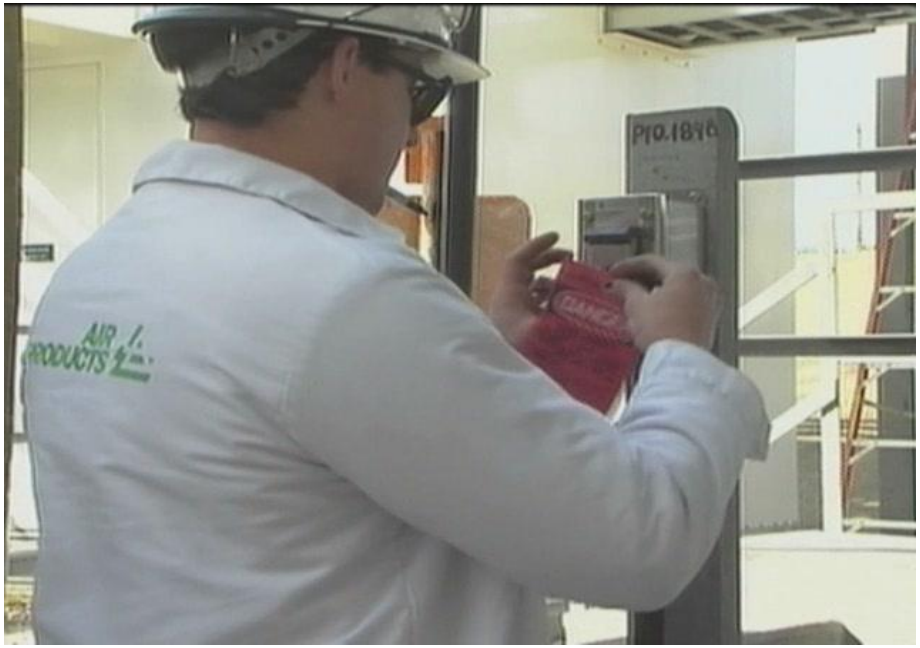
1. *Preparation for shut down.* Before the authorized or affected employee shuts down the machine or equipment, the authorized employee needs to know the type and amount of energy, the hazards of the energy, and the method and means to control it.



2. *Machine or equipment shut down.* The machine will then be shut down according to the procedures required by the manufacturer. An orderly shut down must be used to avoid increased hazards to employees as a result of incorrect shut down.

Procedures for Lockout/Tagout

3. *Machine or equipment isolation.* All energy the machine utilizes will then be located and isolated from their sources.



Procedures for Lockout/Tagout

4. *Lockout/tagout device application.* The lockout/tagout device can then be placed on the energy isolation device by the authorized employee.

A) The lockout device should lock the energy isolation device in the safe or off position.

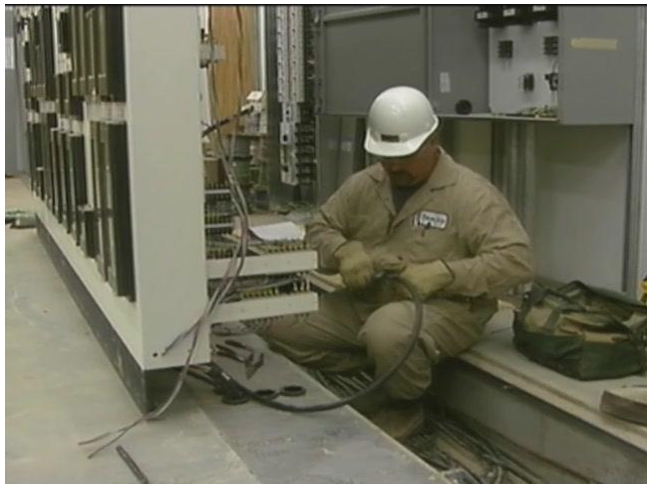
B) Tagout devices are also permissible when the employer can safely prove that the tagout device will provide employee protection equal to the lockout device.

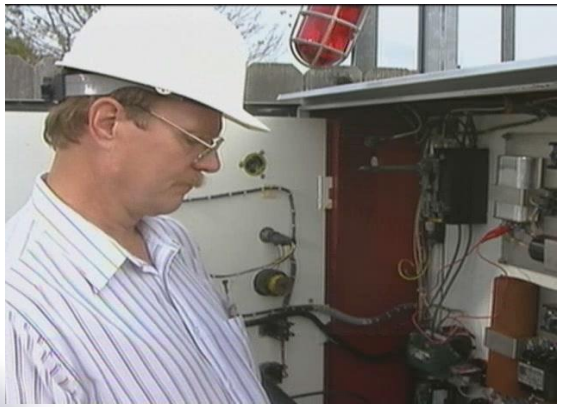
i. **The tag must be placed at the same point the lockout device would have been attached.**

ii. **The tagout device must clearly prohibit anyone from activation of the machine or equipment.**

Procedures for Lockout/Tagout

5. *Stored energy.* Stored energy must be released, disconnected, restrained and otherwise rendered safe. These energy sources include electrical, pneumatic, hydraulic, mechanical, thermal, chemical and the force of gravity.



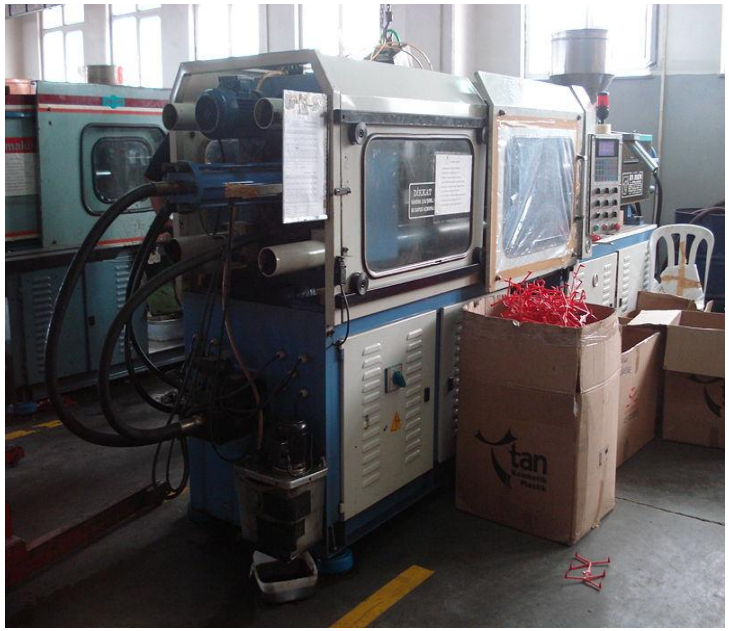


6. *Verification of isolation.* Before starting work on the machine that has been locked out or tagged out, the authorized employee should verify that the isolation of the machine or equipment has been achieved.

Removal of Locks and Tags

1. The authorized employees must make sure that tools are removed from the machine or equipment and all components are operational.

2. All employees should be at a safe distance from the machine or equipment.



Removal of Locks and Tags

3. Each lockout/tagout device should be removed by the employee who applied the device. If the employee who applied the lockout/tagout device is not present, the device can be removed under the direction of the employer. The procedure to be followed in case of an absent authorized employee should contain:

A)Employer verification that the employee is absent from the facility;
B)Reasonable efforts to contact the employee about the removal of lock or tag; and
C)Making the absent employee aware that their lockout/tagout device was removed before they return to work.

Special Occasions

Procedure for testing or positioning a locked or tagged machine:

Clear the machine of any tools or materials used

Make sure there are no other employees in the machine

Remove the lockout/tagout device from the energy isolating device

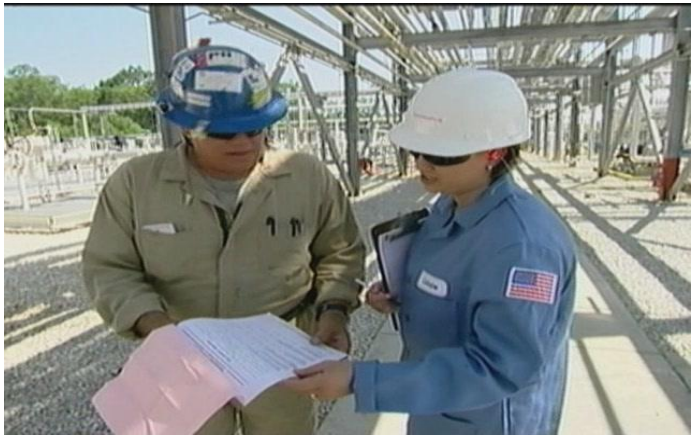
Energize and proceed with testing or positioning

Deactivate all systems and reapply energy control devices as required by the lockout/tagout procedures

Special Occasions

Hiring a contracted service crew:

1. The on-site employer and outside employer should inform each other of their respective lockout/tagout procedures.
2. The on-site employer should then make sure his/her employees understand and comply with the restrictions of the outside employer's energy control program.



Special Occasions

Group/Crew Lockout/Tagout

1. One member of the crew is appointed/given primary responsibility of the crew. The primary crew member makes sure that all group members are safe during lockout.

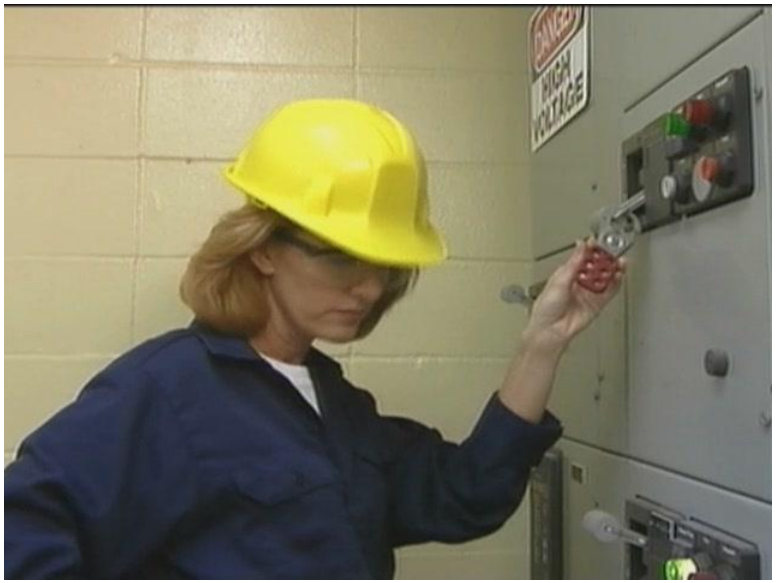
2. Each authorized employee must place his/her lockout/tagout device on the group lockout device or lock box when he/she begins work and remove it when he/she stops working on the machine.

Special Occasions

Shift or Personnel Changes:

1. There must be continuity of protection for off-going employees and oncoming employees.

2. The employees must follow shift change procedure set by employer.



Conclusion

A) The lockout/tagout procedures are a method of keeping equipment from being activated and endangering workers.

B) The six-step procedure for hazardous energy control

- Preparation for shutdown
- Equipment shutdown
- Machine or equipment isolation
- Application of lockout/tagout device
- Control of stored energy
- Verification of isolation

Conclusion (continued)

C) Procedure to remove lock or tag

- Clean out any tools or materials in machine.
- Make sure all employees are a safe distance away.
- Notify all affected employees that the machine is being activated.

D) Be aware of what to do in special situations such as hiring outside contractors, temporary reactivation of machine or equipment, servicing that lasts more than one shift and removing lockout device by employee who did not apply it.

Quiz

Click on the link below to take a 10-Question Quiz.

https://secure.rutherfordcountytn.gov/insquiz/lockout.aspx

Once you have linked to the quiz, please enter your Social Security Number at the top. You will need to enter it according to the example shown (ex. 999-99-9999 with hyphens included).

Once finished with the questions, please click the submit button and your training will be recorded.

Note: It takes 90 days for newly hired employees to be loaded to the training database. In this case print out the quiz and submit to your supervisor or safety training point of contact.