

 CORPORATE SAFETY MANUAL	<b>ENVIRONMENTAL, HEALTH AND SAFETY STANDARDS</b>	
<b>TITLE: LOCKOUT/TAGOUT</b>	<b>Document Number: *</b>	
	<b>Issue Date:</b> *	<b>Revision Date:</b>

## 1 Purpose

These procedures are designed to prevent injury resulting from the unexpected energization of machines or equipment while they are being installed, repaired, replaced, or renovated.

## 2 Responsibilities

It is the responsibility of Vice President or his designee to oversee the implementation and compliance of this program. It is the responsibility of the Project Superintendents to ensure that lockout/tagout is conducted for equipment on their jobsite.

## 3 Policy Content

### 3.1 DEFINITIONS

**Authorized Employees:** Employees who lockout machines or equipment in order to perform servicing or maintenance on that machine or equipment.

**Affected Employees:** An employee whose job requires him to operate or use a machine or piece of equipment on which servicing or maintenance is being performed under lockout or tagout. An employee whose job requires him to work in an area in which servicing or maintenance is being performed on equipment under lockout or tagout.

**Other Employees:** An employee whose work operations are or may be in an area where lockout/tagout is occurring.

**Lockout Equipment:** Padlocks that are capable of being attached easily to energy isolation equipment. These locks will prevent the switching of the energy isolation equipment from the "safe" or "off" position to the "on" or "run" position. They must not be easily removed without using a key. All "authorized" employees will have their own locks and keys, and their keys will not be able to remove any other locks.

**Tagout Equipment:** Tagout equipment are signs that contain warning statements (see below) alerting employees not to switch energy isolation equipment from the "safe" or "off" position. They must be moisture proof and be attached directly to the isolation equipment

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with a plastic cable tag. The word "Danger" must be used as part of the statement on all tags. Examples of warnings are:

DANGER DO NOT START  
DANGER DO NOT OPEN  
DANGER DO NOT CLOSE  
DANGER DO NOT ENERGIZE  
DANGER DO NOT OPERATE

The print and format of the tag must be standardized by the Program Administrator or and must be of the same color, shape and size.

***Energy Isolation Equipment:*** Any device designed to prevent electricity or mechanical energy from being transmitted to the machine or equipment being worked on. Examples are: circuit breakers, fuses, motor disconnects, on/off switches, operator switches, key blocks, chains, wedges, and locking fasteners.

### 3.2 TRAINING REQUIREMENTS

The purpose of providing training is to ensure all employees understand the function of the energy control policy.

- Each employee classified as "**other**" will receive training on the prohibition relating to attempts to restart or re-energize machines or equipment which are locked or tagged out.
- Each "**affected**" employee will receive the above training and additional training on the purpose and use of the program.
- Each "**authorized**" employee will receive all of the above mentioned training. In addition he/she will receive the following training so as to have the knowledge and skills required for safe application, usage and removal of these energy controls:
  - a) recognition of applicable hazardous energy sources;
  - b) the type and magnitude of the energy available in the workplace; and
  - c) methods and means necessary for energy isolation and control.
- Employees must be retrained whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in this energy control policy.
- A record of training will be kept showing the employees name and date and level of training. (See Appendix A for Training Summary Form)

### 3.3 POLICY REVIEW

At least once per year an "authorized" employee will review the energy control procedures to ensure that the policy is fulfilling its intent and requirements of the law. Each review must include the following information:

- the machine or equipment on which the energy control procedure was being utilized;
- the date of the inspection;
- the employee(s) using the policy/procedures; and
- the person performing the inspection.

(see appendix B for Annual Policy Review Documentation Form)

### 3.4 OUTSIDE CONTRACTORS

All outside contractors who will perform any servicing of equipment on-site that requires lockout/tagout must inform **(Insert Company Name)** of the requirements and prohibitions of their lockout/tagout program. Likewise, **(Insert Company Name)** will inform the contractor of the requirements outlined in this lockout/tagout procedure.

It is the responsibility of the subcontractor to inform their employees of the likelihood of encountering another lockout/tagout system.

If a contractor fails to follow the lockout/tagout procedures they will be prohibited from continuing work at a **(Insert Company Name)** jobsite.

If a contractor is a licensed, master electrician he is required to follow a lockout/tagout procedures. He is not, however, required to have a second lockout/tagout device attached by a **(Insert Company Name)** employee to the energy control equipment upon which he alone will be working.

### 3.5 LOCKOUT/TAGOUT PROCEDURES

#### ***Employee Restrictions***

ONLY TRAINED AUTHORIZED EMPLOYEES MAY BEGIN WORK UNDER LOCKOUT/TAGOUT PROCEDURES.

#### ***Employee Notification***

Before lockout/tagout procedures begin, the "authorized" employee who will be doing the work must notify "affected" employees that an operation involving lockout/tagout will be performed on their equipment or machine.

## **Controls**

The following controls must be applied in the order written:

- 1) **Preparation for Shutdown:** Before a piece of equipment is shut down the employee(s) performing the work must be sure they understand the type, magnitude, and hazards involved and the methods used to control the energy to be encountered.
- 2) **Machine or Equipment Shutdown:** The equipment must be shut down in a controlled and orderly fashion to prevent any risk to the employee doing the work and to employees in the area.
- 3) **Machine or Equipment Isolation:** All energy isolation devices that are needed to allow the flow of energy from the main source to a machine or piece of equipment must be located and switched to the "off" or "safe" position or blocked to prevent the flow of energy (electrical or mechanical) to the machine or equipment.
- 4) **Applying Lockout/Tagout Devices**
  - A lockout/tagout device(s) must be affixed to each piece of energy isolation equipment that will allow energy to flow to the machine or equipment to be worked on. These lockout/tagout devices must be placed in a manner so that they will hold the energy isolating devices in the "safe" or "off" position. They must also identify the person who attaches the device.
  - A minimum of two (2) lockout devices must be attached to each piece of energy isolation equipment. One device must be applied by the person that will actually perform the service or maintenance to the machine or equipment and one by either his supervisor or a qualified employee (to be designated by the supervisor). If tagout devices are used, the person that will actually perform the service or maintenance to the machine or equipment and either his supervisor or a qualified employee (to be designated by the Supervisor) must sign each tagout device.
  - Tagout devices may only be used if it is physically impossible to apply a lockout device to the energy isolation equipment.

- If a tagout device is used it must clearly indicate that the operation of the isolation device from the "safe" or "off" position is prohibited. It must also include the word "Danger" in the written warning instructing that the isolation device not be switched from the "safe" or "off" position.
- If a tagout device cannot be attached directly to a piece of energy isolation equipment it must be attached in an area that is immediately visible to anyone attempting to operate the energy isolation equipment.
- If portable electrical equipment, or other cord and plug equipment, is to be repaired, the power cord must be unplugged and a tagout device attached to the plug. This tagout device must remain on the plug until the equipment has been fully repaired and is ready to be tested or put back into service.

#### **5) Verification of Energy Isolation**

- Following the application of lockout or tagout devices to energy isolation equipment, all potentially hazardous stored or residual energy must be relieved, disconnected, restrained or otherwise made safe. If there is a danger that the stored energy will re-accumulate to a hazardous level, you must continue to verify isolation until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.
- Before beginning work on a piece of equipment or machine the person doing the work must verify that the isolation and de-energization of the machine or equipment has been effective. This may be accomplished by attempting to turn on the equipment or machine after the power has been de-energized (normally with the operator on/off switch). If the energy is no longer stored in the machine after doing this, he then must lockout or tagout this device.

#### **6) Release from Lockout/tagout**

- Before removing lockout/tagout devices, inspect the work area to insure all nonessential items (tools, rags, etc.) have been removed and that the equipment or machinery is operationally intact. Make sure all employees have been safely positioned or removed from the area.

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- The person who attached them except as noted below may only remove Lockout/tagout devices.
- If the person who originally installed a lockout/tagout device is unavailable to remove the device;
  - ◇ The person who attached the device may designate, in writing someone else to remove the lock(s) or tag(s) provided the person he designates has equal training in the proper safety procedures concerning lockout/tagout.
  - ◇ Company supervision may remove the lock(s) or tag(s) if they have:
    - a) verified that the person who attached the lock or tag is not at the facility;
    - b) made provisions to notify the person who attached the lock or tag that the lock or tag has been removed upon their return;
    - c) a second supervisor from the area in which the equipment is located agrees to remove the lock(s) or tag(s).

### ***Testing of Lockout/Tagout Equipment***

In the event that lockout/tagout devices must be removed for the purposes of testing or positioning equipment or machines, the following procedure must be followed:

- 1) The machine or equipment should be cleared of tools and other nonessential materials.
- 2) Nonessential employees should be removed from the area.
- 3) Remove locks or tags following the steps outlined above.
- 4) Energize and proceed with testing or positioning.
- 5) De-energize all systems.
- 6) Reapply locks or tags to energy control equipment.
- 7) Try to re-energize machine after lockout to ensure all energy is removed.
- 8) Proceed with further work on the machinery or equipment as needed.

***Multi-Employee Tasks***

When a group of employees are to work on equipment or machinery requiring lockout/tagout, the following procedures must be observed:

- 1) The Project Superintendent will take responsibility for the implementation of the lockout/tagout procedures. He is required to evaluate the need for lockout/tagout devices and insure all employees working on the equipment are aware of lockout/tagout procedures.
  
- 2) Each employee must attach his own personal lockout device or sign the tag on the primary energy isolation equipment when they begin work on the machine or equipment. When an employee finishes work on the machine or equipment, that employee must personally remove his name from the tag(s) or remove the lock(s).

***Shift Changes***

If work is to be continued by another employee on the next shift, the employee from the first shift should remove their lock or tag and the employee beginning work should attach their own personal lock(s) or tag(s).

**3.6 NEW EQUIPMENT PURCHASES**

All equipment or machinery to be purchased new or to undergo major overhaul on or after January 2, 1990, must have energy isolation equipment installed that is capable of accepting lockout equipment.

**3.7 EQUIPMENT INVENTORY**

All equipment in the facility that will require the use of the above lockout/Tagout procedures in order for it to be safely worked on must be listed in an inventory with the description of how all lockout/tagout devices will be applied to the equipment during a repair or Installation procedure.(see appendix C for LOTO Equipment Inventory Form and Specific LOTO Procedures)

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**4 *References***

**Control of Hazardous Energy (29 CFR 1910.147)**

## **5 Appendices**

- Appendix A: Training Summary Form for LOTO Program
- Appendix B: Annual Policy Review Documentation Form
- Appendix C: LOTO Equipment Inventory Form and Specific LOTO Procedures