

# SINGLE SOURCE SAFETY DOCUMENT

## CHAPTER 9 LOCKOUT/TAGOUT

**9-1. GENERAL.** Lockout/Tagout procedures are designed to prevent accidents and injuries caused by the accidental release of hazardous energy. The lockout/tagout standard covers servicing and maintaining equipment where unexpected energization of equipment could injure employees. Energy sources include: electrical, mechanical, pneumatic, fluids and gases, hydraulic, thermal, and water under the pressure of gravity. Isolation of these energy sources might include repair and replacement work, renovation work and modifications or other adjustments to power equipment. Hazardous energy problems include: accidental start-ups, electrical shock, and disabling injuries and death.

### **9-2. DEFINITIONS.**

a. Energized: Connected to an energy source or containing residual or stored energy.

b. Energy-isolating device: A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: A manually operated electrical circuit breaker; a disconnect switch; a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded independently; a slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, and other control circuit-type devices.

c. Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

d. Lockout: The placement of a lockout device on an energy-isolating device, in accordance with an established procedure, ensuring that the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

e. Lockout device: A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or equipment.

f. Servicing and/or maintenance: Workplace activities such as constructing, installing, setting-up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

g. Tagout: The placement of a tagout device on an energy-isolating device, in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

h. Tagout device: A prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy-isolating device in accordance with an established procedure, to indicate that the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

### **9-3. RESPONSIBILITIES.**

a. Installation Safety Office:

(1) Serve as principle staff adviser and technical consultant.

(2) Conduct periodic inspections to ensure each activity is in compliance with this regulation and other Army and Federal policies governing lockout/tagout of machines, equipment, or electrical panels.

b. Activity commanders/directors:

(1) Ensure lockout/tagout standard operation procedures (SOPs) are developed, established, and implemented in each workplace as required, ensuring that consultation and bargaining obligations with the local union are met prior to implementation.

(2) Ensure authorized personnel responsible for performing lockout/tagout procedures are identified in activity SOPs (supervisors, line supervisors, operators, maintenance personnel).

(3) Ensure all machinery and equipment are listed in each section's lockout/tagout SOP.

c. Supervisors:

(1) Establish lockout/tagout SOP isolating equipment and machinery at the energy source.

(2) Train affected employees in the purpose and use of the lockout/tagout procedures upon orientation and conduct annual refresher training. Document training sessions, to include individuals' signatures.

(3) Train authorized employees in performing lockout/tagout procedures.

(4) Ensure authorized employees perform lockout/tagout procedures as required.

(5) List all machinery and equipment in the lockout/tagout SOP.

(6) Obtain required lockout/tagout devices needed to isolate equipment and machinery in the workplace.

(7) Assign required lockout/tagout devices to authorized personnel.

### **9-4. REQUIREMENTS.**

a. Directors, commanders, and supervisors responsible for machinery and equipment will establish a lockout/tagout SOP. See Figure 9-1 for a sample template. Procedures will be developed for each type of equipment.

b. Employees shall be instructed in the safety significance of the lockout/tagout procedure. Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tagout procedure of affected employees (operators of equipment).

c. Authorized (line supervisors, maintenance personnel) personnel shall be trained on the lockout/tagout procedures to isolate energy from the machinery and equipment.

d. Inventory of equipment that requires lockout/tagout procedures shall be included in lockout/tagout SOP.

e. Leaders/supervisors/commanders will ensure that subordinates are required to lockout and tag the main source of power before any maintenance, inspection, cleaning, or contact with machinery, equipment or systems that have potential to cause injury or death.

f. The lockout will be by means of padlocks, blank flanges, padlock-with-chains, or similar devices that physically prevents reactivation of a main power source.

g. Individuals required to use locks and tags will be issued a personal lock and key. To eliminate the chance of unauthorized lock removal, duplicate keys will not be provided.

h. The lockout device will be accompanied by a “Danger” tag that has the installer’s full name, shop, telephone number, and date of installation.

i. In any instance where physical lockout of the main power source is not possible, a “watch stander” must be located at the control device during work efforts.

## **9-5. PROCEDURES.**

a. Make a survey to locate and identify all isolating devices to be certain which switches, valves or other energy-isolating devices apply to the equipment to be locked or tagged out. More than one energy source (electrical, mechanical, or others) may be involved.

b. Sequence of lockout or tagout system.

(1) Notify all affected employees that a lockout or tagout system is going to be utilized and the reason therefore. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards thereof.

(2) If the machine or equipment is operating, shut it down by normal stopping procedure (depress stop button, open toggle switch, etc.).

(3) Operate the switch, valve, or other energy-isolating devices so that the equipment is isolated from its energy source. Stored energy (such as that in springs, elevated, machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure) must be dissipated or restrained by methods such as repositioning, blocking, bleeding down, and etc.

(4) Lockout and/or tagout the energy-isolating devices with assigned individual locks or tags.

(5) After ensuring that no personnel are exposed, and as a check on having disconnected the energy sources, operate the push button or other normal operating controls to make certain the equipment will not operate. Caution: Return operating controls to “neutral” or “off” after the test.

(6) The equipment is now locked or tagged out.

c. Restoring machines or equipment to normal production operations.

(1) After the servicing and/or maintenance is complete and equipment is ready for normal production operations, check the area around the machines or equipment to ensure that no one is exposed.

(2) After all tools have been removed from the machine or equipment, guards have been reinstalled and employees are in the clear, remove all lockout or tagout devices. Operate the energy-isolating devices to restore energy to the machine or equipment.

d. Procedure involving more than one person. In the preceding steps, if more than one individual is required to lockout or tagout equipment, each shall place their own personal lockout device or tagout device on the energy-isolating device. When an energy-isolating device cannot accept multiple locks or tags, a multiple lockout or tagout device (hasp) may be used. If lockout is used, a single lock may be used to lockout the machine or equipment with the key being placed in a lockout box or cabinet which allows the use of multiple locks to secure it. Each employee will then use their own lock to secure the box or cabinet which allows the use of multiple locks to secure it. As each person no longer needs to maintain their lockout protection, that person will remove their lock from the box or cabinet.

e. Basic rules for using lockout or tagout system procedure. All equipment shall be locked out or tagged out to protect against accidental or inadvertent operation when such operation could cause injury to personnel. Do not attempt to operate any switch, valve, or other energy-isolating device where it is locked or tagged out.

**9-6. REFERENCES.**

- a. AR 385-10
- b. 29 CFR 1910.147

## **SAMPLE SOP**

### **LOCKOUT/TAGOUT STANDARD OPERATING PROCEDURE**

1. Purpose. To establish procedures for lockout/tagout to safely isolate equipment and machinery in accordance with Fort Lee policy and 29 CFR 1910.147.

2. Responsibilities.

- a. Supervisor. (List supervisors' responsibilities)
- b. Affected employees. (Identify affected employees; carpenters, mechanics, plumbers, craft shop customers, and list responsibilities.)
- c. Authorized employees. (Identify authorized employees and list responsibilities.)

NOTE: Affected employees and authorized employees maybe the same person. Also, supervisors and authorized employees may be the same person.

3. Policy. Lockout/tagout procedures will be used on the following machinery/equipment whenever adjusting, servicing, or performing maintenance.

\*(List machinery or equipment; band saws, mortising machine, drill press, table saw, grinders, lathes, presses, shapers, etc.)

4. Procedures. (List general procedures in this section.) NOTE: When more than one type of machinery/equipment is operated, list procedures for each type in the appendix of the SOP.