

DHHS POLICIES AND PROCEDURES

Section V:	Human Resources
Title:	Safety and Benefits
Chapter:	Lockout/Tagout
Current Effective Date:	5/1/09
Revision History:	5/1/09, 4/1/04, 7/1/03
Original Effective Date:	1/1/86

Purpose

The purpose of this policy is to provide protocols for the safe removal and isolation of energy sources (electrical, mechanical or stored) whenever maintenance or servicing work is performed on machinery, equipment or systems, to prevent accidents and injury through accidental start-up or re-energization.

Policy

Division/Facility/School Directors shall ensure all Department employees receive and comply with Lock Out/Tagout general and specific training as required by OSHA 1910/1926 Industry and Construction Standards.

Definitions

1. **Affected employee.** An employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.
2. **Authorized employee.** A person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.
3. **Capable of being locked out.** An energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.
4. **Energized.** Connected to an energy source or containing residual or stored energy.

5. **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 supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.
6. **Energy source.** Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.
7. **Hot tap.** A procedure used in the repair maintenance and services activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.
8. **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.
9. **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 a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.
10. **Normal production operations.** The utilization of a machine or equipment to perform its intended production function.
11. **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.
12. **Setting up.** Any work performed to prepare a machine or equipment to perform its normal production operation.

13. **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.
14. **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.

Roles and Responsibilities

1. **DHHS Safety Manager:**

The DHHS Safety Program Manager shall develop a means to determine the effectiveness and compliance of each Division/Facility/School Lock Out/Tag Out Program through periodic reviews. Additionally, the Safety Program Manager shall provide consultative services and training for Lock Out/Tag Out as requested on an as needed basis.

2. **Division/Facility/School Director:**

Each Division/Facility/School Director shall ensure the development of a written lock Out/Tag Out program with specific operating procedures to implement this policy.

3. **Division/Facility/School Safety and Health Director:**

The Division/Facility/School Safety and Health Director shall ensure a periodic review of the program, not less than annually, is accomplished to determine the effectiveness of the program, necessary changes, and up to date status of training for authorized employees.

4. **Supervisors/Managers:**

Each supervisor/manager and employee shall comply with the requirements of this policy and where applicable, comply with applicable written procedures.

Implementation

1. Whenever maintenance or servicing is performed on machinery, equipment or to prevent the movement of mechanical or stored energy components of an energized system during maintenance or servicing, the device shall be de-energized and all energy sources shall be locked in the off position.
2. Only authorized employees trained in accordance with this policy may apply or attach locks and tags.
3. The Division/Facility/School Safety and Health Director shall review the Lock Out/Tag Out procedures annually to determine the effectiveness of the program, necessary changes, and up to date status of training for authorized employees.
4. Tags may be used in lieu of locks only in the following conditions:
 - A. If the energy-isolating device cannot be locked out and the tagout device provides the same full employee protection as a lockout device.
 - B. If the device to be serviced is powered solely by a flexible cord and attachment plug which can be removed from the power source and remain under the direct control of the person attempting maintenance or servicing.
5. The following general procedures shall be followed during Lock Out/Tag Out:
 - A. Tags shall be attached securely so they can't be removed.
 - B. Tags shall be placed in a position so that anyone attempting to operate the device will understand that moving the device from the "off" position is prohibited.
 - C. All locks and tags shall have a standardized color, size, and shape.
 - D. Tags shall be uniform in print and format and include words such as: "Do Not Start", "Do Not Open", "Do Not Operate" or "Do Not Plug In."
 - E. Each authorized employee shall have an individual, identifiable lock and key.
 - F. Lock Out and Tag Out devices shall be capable of withstanding the environment to which they are directed or potentially exposed.

- G. Lock Out devices shall be tamper proof up to the “Bolt Cutter Required” removal level.
 - H. Lock Out/Tag Out devices shall only be used for LO/TO purposes.
 - I. Employees shall be made aware that tags won’t protect them from an accidental start up, but they are merely an alert to others that you are working on the equipment.
 - J. After Lock Out devices are applied, employees shall ensure that no hazardous energy is still being stored in the equipment. This procedure shall be accomplished by the authorized employee placing all controls to the on position to ensure the machine will not start up and then placing all controls/switches back to the “off” position.
 - K. Before restarting equipment, the authorized employee shall verify that it is safe to reenergize the equipment. This verification shall include an assurance that all tools, spare parts, and debris have been removed from the work area, safety guards reinstalled and that the equipment is in the same condition as before the procedure.
 - L. Everyone in the work area shall be alerted prior to the authorized employee removing the Lock Out/Tag Out device to ensure they are out of the way and that it is safe to return the machine to operating condition.
 - M. When a group Lock Out situation occurs, one employee shall be assigned to have the primary responsibility for the Lock Out/Tag Out procedure. This employee shall make sure that the Lock/Tag isn’t removed while employees are still servicing or maintaining the equipment.
 - N. In the event of a shift of personnel change, a group lockout device shall be used. Outgoing employees shall be present and observe the incoming employee attach their lock or tag before removing their own.
 - O. In most cases, a lock or tag that another employee has attached should not be removed without the employee present. Procedures for locating the employee and removal of the lock shall be in the written plan.
6. Each Division/Facility/School Director shall ensure the development of a written lockout/tagout procedures, which shall address, at a minimum:
- A. Standardized lockout devices and tags.

- B. A means to identify each lockout device or tag with the person to whom it is assigned.
 - C. Specific procedures for preparing a lockout/tagout and removing of a lockout.
 - D. Specific procedures for lockouts by more than one (1) person.
 - E. Specific procedures for removal of a lockout in emergency situations or if the person who installed the lockout is unavailable to remove it.
 - F. Specific procedures for “each piece” of equipment specifying:
 - 1. The authorized employees
 - 2. Steps to take in preparation for lockout
 - 3. Steps to take to lockout the machine
 - 4. Steps to take to ensure the equipment is at zero negative energy state
 - 5. Steps to take if locks must be removed for testing of equipment during maintenance or servicing procedures
 - 6. Steps to take to restore equipment to service
 - 7. Steps to take to remove locks and re-energize the equipment
 - 8. Steps to take to complete the maintenance or servicing operations
7. The division/facility/school shall provide training as outlined below:
- A. To all affected employees prior to the performance of any maintenance or servicing operations. Such training shall include the following:
 - 1. Specific Lockout/Tagout procedures they will use
 - 2. Purpose and use of the energy control procedure

- B. During new employee orientation, all other employees whose work operations may be in an area where energy control procedures may be utilized. The training shall include associated LO/TO procedures in their area about the prohibitions relating to attempts to restart or reenergize equipment which is locked out or tagged out.

- C. When tagout systems are used, authorized employees shall be trained on the following limitations of tags:
 - 1. Tags are essentially warning devices affixed to energy isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
 - 2. When a tag is attached to an energy isolating means, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.
 - 3. Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area, in order to be effective.
 - 4. Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.
 - 5. Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.
 - 6. Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

- D. Employee retraining shall be provided for all authorized and affected employees whenever the following conditions are met:
 - 1. 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 the energy control procedures.
 - 2. Whenever a periodic inspection of this section reveals, or whenever the employer has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

- E. The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.
- F. The employer shall certify employee training in writing and ensure the following elements are contained, as a minimum (see also DHHS Safety Training Policy):
 - 1. Name of the employee’s division/facility/school and work unit.
 - 2. Date of training.
 - 3. Employee’s printed/typed name.
 - 4. Trainer’s printed/typed name.
 - 5. Training topic.
 - 6. Statement that the employee “acknowledges participation in the training and has acquired the knowledge, skills and ability to safely perform the task trained, and has been given the opportunity to ask questions and have those questions satisfactorily answered.”
 - 7. Employee’s signature.
 - 8. Trainer’s signature.
 - 9. Any deadline for follow-up training and make-up procedures.

References

North Carolina General Statutes:

- 1. Chapter 95: Occupational Safety and Health Act of North Carolina: 95-129(2) and 95-148(1) and (2)
- 2. Chapter 143, Article 63: Workplace Requirements Program for Safety and Health: 143-582(1) through (4) and (6)

North Carolina Administrative Code:

- 1. 25 NCAC 1N.0105(a) and .0202-.0206
- 2. 13 NCAC 7F.0101(4)

North Carolina Occupational Safety and Health Standards for General Industry:

1. 29 CFR 1910.147
2. 29 CFR 1910 Subpart J

American National Standard for Respiratory Protection - Respirator Use, Z88.2-1992
North Carolina State Employees' Workplace Requirements Manual for Safety and Health.

For questions or clarification on any of the information contained in this policy, please contact [Human Resources](#). For general questions about department-wide policies and procedures, contact the [DHHS Policy Coordinator](#).