

# Dutchess Community College

## Control of Hazardous Energy

### Lockout Tagout Program

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## Introduction:

In accordance with 29CFR1910.147 The Control of Hazardous Energy (Lockout/Tagout) Dutchess Community College will establish an energy control program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

## Definitions:

*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.

*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.

*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.

*Energized.* Connected to an energy source or containing residual or stored energy.

*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.

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

*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.

*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.

*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. Included are blank flanges and bolted slip blinds.

*Normal production operations.* The utilization of a machine or equipment to perform its intended production function.

*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.

*Setting up.* Any work performed to prepare a machine or equipment to perform its normal production operation.

*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.

*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.

## Compliance with this Program:

All Dutchess Community College employees are required to comply with the restrictions and limitations imposed upon them during the use of lockout/tagout. The authorized employees are required to perform the lockout/tagout in accordance with this procedure. All employees, upon observing a machine or piece of equipment which is locked out or tagged out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.

## Protective Materials and Hardware:

Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided by Dutchess Community College for isolating, securing or blocking of machines or equipment from energy sources.

Lockout devices and tagout devices shall be singularly identified; shall be the only device(s) used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:

Lockout and tagout devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.

Tagout devices shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.

Tags shall not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.

Lockout and tagout devices shall be standardized throughout the College in at least one of the following criteria: Color; shape; or size; and additionally, in the case of tagout devices, print and format shall be standardized.

Lockout devices shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.

Tagout devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece, all environment-tolerant nylon cable tie.

Lockout devices and tagout devices shall indicate the identity of the employee applying the device(s).

Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: *Do Not Start. Do Not Open. Do Not Close. Do Not Energize. Do Not Operate.*

## Periodic Inspection:

Dutchess Community College shall conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this standard are being followed.

The periodic inspection shall be performed by an authorized employee, supervisor or safety representative other than the ones(s) utilizing the energy control procedure being inspected.

The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

Where lockout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

Where tagout is used for energy control, the periodic inspection shall include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected including the following elements of the plan.

The understanding that 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.

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.

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.

Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.

Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

Dutchess Community College shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employee(s) included in the inspection, and the person performing the inspection.

## Training and Communication:

Dutchess Community College shall provide training to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training shall include the following:

Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

Each affected employee shall be instructed in the purpose and use of the energy control procedure.

All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

When tagout systems are used, employees shall also be trained in the following limitations of tags:

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.

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.

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.

Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.

Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use.

## Employee Retraining:

Retraining shall be provided for all authorized and affected employees 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 the energy control procedures.

Additional retraining shall also be conducted whenever a periodic inspection reveals, or whenever Dutchess Community College has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.



Dutchess Community College shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name and dates of training.

## Sequence of Lockout:

(1) Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance. Verbal notification shall take place for all affected employees in the immediate area of the machine or equipment.

(2) The authorized employee shall identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy, and shall know the methods to control the energy. If the authorized employee has any questions as to the hazard of the energy and control methods to be used they must consult their supervisor for direction prior to lockout procedures.

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

(4) De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s).

(5) Lock out the energy isolating device(s) with assigned individual lock(s).

(6) Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by methods such as grounding, repositioning, blocking, bleeding down, etc.

(7) Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate.

Caution: Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

(8) The machine or equipment is now locked out.

## Restoring Equipment to Service:

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following steps shall be taken.

- (1) Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
- (2) Check the work area to ensure that all employees have been safely positioned or removed from the area.
- (3) Verify that the controls are in neutral.
- (4) Remove the lockout devices and reenergize the machine or equipment.

Each lockout or tagout device shall only be removed from the energy isolating device by the employee who applied the device.

Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.

- (5) Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

## Contractor Coordination:

Whenever outside servicing personnel are to be engaged in activities that require the use of an Energy Control Program Dutchess Community College and the outside employer shall inform each other of their respective lockout or tagout procedures.

Dutchess Community College shall ensure that employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

## Group Lockout/Tagout:

Whenever more than one authorized employee performs Lockout/Tagout, each individual group member must follow the Lockout/Tagout procedures

outlined in this policy. Employees must NEVER depend upon someone else's lockout device, and must ALWAYS use their individually assigned lockout device.

Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

## Appendix A

# Periodic Lockout/Tagout Inspection Form

**Directions:**

- Conduct periodic inspections **at least annually**
- Keep the original on file and **send a copy to the Safety Coordinator**

<b>Department:</b>	<b>Unit:</b>	<b>Date:</b>
<b>Machine/Equipment Inspected:</b>		

**Employees included in the inspection:**

1.	2.	3.
4.	5.	6.
7.	8.	9.

**Review the Lockout/Tagout Procedures and employee responsibilities with the authorized employees and complete the following:**

1. Do the employees understand the Lockout/Tagout Procedures and their responsibilities under the College Lockout/Tagout Policy?  YES  NO If no, indicate corrective action taken:

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2. Do the employees follow the Lockout/Tagout Procedures?  
 YES  NO If no, indicate corrective action taken:

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3. Are the established Lockout/Tagout Procedures effective to provide full protection?  
 YES  NO If no, indicate corrective action taken:

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4. Other discrepancies noted and corrective actions taken:

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**Person(s) Conducting Inspection:**

<b>Name:</b>	<b>Signature:</b>	<b>Department:</b>
<b>Name:</b>	<b>Signature:</b>	<b>Department:</b>

