



## Lockout Tagout Program

Public Safety Department  
Environmental, Health and Safety (EHS) Division  
Standard Operating Procedure (SOP) #18

# Lafayette College Lockout Tagout Program

Public Safety Department – Environmental, Health and Safety (EHS) Division

Standard Operation Procedure (SOP) #18 – Revised January 2018

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## Purpose

To ensure that machinery or equipment is isolated from all potentially hazardous energy, and locked out or tagged out before employees perform any servicing or maintenance activities where the unexpected energization, start-up, or release of stored energy could cause injury.

## Scope

This program covers the servicing and maintenance of machines and equipment in which the unexpected energization or start-up of the machines or equipment, or release of stored energy could cause injury to employees.

Machines and equipment that must be locked-out and/or tagged-out during maintenance or servicing include, but are not limited to, the following:

### Ord Steam Plant (chains, locks, and/or tags)

- Boilers
- D. A. Tank
- Condensate Tank
- Inoperable equipment (i.e. pumps, and motors)

### Campus Equipment (locks and/or tags)

- Elevators
- Air Handling Units (AHU)
- Cooling Towers
- Pumps (heat, condensate, sewage)
- Electrical Boxes
- Motors (belt changes)
- Heating Ventilating Air Conditioning Units (HVAC)

## Referenced Documents

Occupational Safety and Health Administration (OSHA), 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

## Definitions

- **Affected Employee:** An employee whose job requires them to operate or use a machine or equipment on which service or maintenance is being performed under lockout/tagout or whose job requires them to work in an area in which such service or maintenance is being performed. Affected employees must be informed when lockout/tagout is being performed.
- **Authorized Employee:** A person who locks and tags machines or equipment in order to perform service or maintenance on it.
- **Energy-Isolating Device:** A mechanical device that physically prevents the transmission or release of energy, including a manually operated electrical circuit breaker, a disconnect switch, a line valve, a block and any similar device used to block or isolate energy.

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- **Lockout:** The process used to identify, cut off and secure all energy sources before beginning repair, adjustment or maintenance. A lockout device is used to secure equipment or machinery in the “off” position, ensuring that it cannot be operated.
- **Lockout Device:** A lock (either key or combination type) that holds an energy-isolating device in a safe position and prevents the machine or equipment from energizing.
- **Servicing and/or Maintenance:** Workplace activities that require lockout/tagout on the equipment before beginning the activity because employees may be exposed to the unexpected energization or startup of the equipment or the release of hazardous energy. Servicing and/or maintenance includes constructing, installing, setting up, adjusting, inspecting, modifying, lubricating, cleaning or unjamming and making tool changes.
- **Tagout:** Attaching a tag to the lock on the power source that has been shut off, indicating the time and reason for the lockout and the name of the person doing the work. The tag acts as a warning not to restore energy to the equipment or machinery.
- **Zero-Energy State:** All energy has been controlled in the machinery or equipment.

## Responsibilities

### Department Heads

- Ensure that appropriate supervisors and employees (new hires and transfers) are trained and knowledgeable in the safe application, usage, and removal of energy controls.
- Be familiar with this SOP and the Lockout/Tagout regulation (OSHA 29 CFR 1910.147).
- Hold Supervisors accountable for following this SOP.

### Supervisors

- Ensure that all employees who are authorized to service equipment within the facility have received training on appropriate lockout/tagout procedures and energy control plans.
- Complete an energy control procedure for each specific piece of equipment or process within the facility.
- Assure that appropriate energy-isolating devices are available for all equipment and processes within the facility.
- Assign locks to authorized employees
- Coordinate activities of contractors that may affect lockout/tagout and energy control procedures within the College.

### Environmental, Health and Safety

- Administer this program and making sure that it satisfies the requirements of all applicable federal, state and local lockout/tagout requirements.
- Provide initial and annual training of employees on lockout/tagout procedures.
- Maintain the training records of all employees included in the training sessions.
- Verify through periodic audit that the lockout/tagout program effectively protects employees who are servicing powered equipment

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## Authorized Employees

- Attend training as required.
- Comply with Lafayette’s lockout/tagout program.
- Follow all safe shutdown and startup procedures.
- Communicate activities to all affected employees and other authorized employees.
- Ensure the security of their own locks and keys.

## Affected Employees

- Advise Facilities Operations when equipment needs servicing.
- Follow the direction of the authorized employee as it affects the operation of their equipment

## Department Heads and Supervisors of Departments with Energized Equipment

- Ensure that only authorized employees service the equipment and machinery in their department.

The following employees are authorized to utilize our lockout/tagout system:

<b>Mechanical Trades</b>	<b>Steam Plant</b>
Michael Adams	Alan Hartzell
Leonard Beltz	Wayne Kosa
Matthew Blackton	Kevin Lewis
Donald Brinker	Gregory Oswald
Michael Coveleskie	Nathan Oswald
John Diorio	Thomas Pursel
Daniel Emrick	David Smith
George Holley	
Christopher Kerchner	
John Koerber	
David Limas	
Ronald Lobb	
John Peterson	
Rocco Vonelli	
Richard Wisniewski	

## **Training Requirements**

Training shall be provided to ensure that the purpose and function of the energy control program is understood by employees and that knowledge and skills required for the safe application, usage, and removal of energy controls are utilized.

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.

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- 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 and their means of attachment must be made of materials that 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. Use a self-locking plastic "tie-wrap" to fasten the tag.

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.
- Conducted whenever a periodic inspection reveals, or whenever we have 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 re-establish employee proficiency and introduce new or revised control methods and procedures, as necessary.

## **Program Activities**

### *General*

- All equipment that contains energy of any form will be locked out prior to being serviced or maintained.
- All employees who are authorized to work on equipment or machinery in the company will follow appropriate company lockout/tagout procedures.
- Contractors who perform work on company equipment will comply with company lockout/tagout procedures.
- An energy control procedure will be completed for each piece of equipment requiring lockout. It will identify all energy-isolation points to be locked and tagged as well as any special information required to safely achieve a zero-energy state.
- A Lockout Checklist and a Safe Startup Checklist will be used during all service and maintenance activities to ensure the safety of both authorized and affected employees.

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### *Work Requiring More Than One Person*

- If more than one person is required to lock or tag out equipment, each person will place his or her own lock and tag on the energy-isolating device.
- When an energy-isolating device cannot accept multiple locks and tags, a multiple lockout device or hasp will be used.

### **Emergency Removal of a Lockout/Tagout Device**

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

When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed as follows:

- Notify your Supervisor that the device must be removed.
- The Supervisor will verify that the authorized employee who applied the device is not at the facility.
- The Supervisor will notify the Associate Director or Director of Facilities Operations that the lockout/tagout must be removed.
- The Associate Director or Director of Facilities Operations will verbally authorize the Access Control Office to remove the lock and or tag.
- Access Control will notify the appropriate Supervisor that the lock and or tag was removed.
- The Supervisor will then make all reasonable efforts to contact the authorized employee to inform them that his/her lockout or tagout device has been removed.
- The Supervisor will ensure that the authorized employee has this knowledge before he/she resumes work at that facility.

**Note: The above procedure has been approved by the Occupational Safety and Health Administration, Allentown Office, Technical Representative, Mike Buck (2/12/93).**

### **Attachments**

- A. Lockout Tagout Checklist
- B. Machine-Specific Energy Control Form

*\*Lockout/Tagout Evaluation Form – Located in the Public Safety Office*

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## Attachment A – Lockout Checklist

Name: \_\_\_\_\_ Building: \_\_\_\_\_ Date: \_\_\_\_\_

Equipment: \_\_\_\_\_ Comments: \_\_\_\_\_

Step 1 – Prepare	Yes	No	N/A
Have the type and amount of energy source on the equipment been identified?			
Have the possible dangers related to the energy source being controlled been identified?			
Are the steps necessary to control the energy source understood?			
Step 2 - Notify	Yes	No	N/A
Have all affected employees been notified of when the equipment will be shut off for service?			
Step 3 – Shutdown Equipment	Yes	No	N/A
Have Lafayette College’s safety procedures been followed?			
Step 4 – Isolate Equipment	Yes	No	N/A
Has the main breaker or control switch been shut off?			
Have valves been closed?			
Have process lines been disconnected?			
Step 5 – Attach Lock and Tag	Yes	No	N/A
Have the lock and tag been attached?			
Step 6 – Release Stored Energy	Yes	No	N/A
Has all potentially hazardous stored or residual energy been released, disconnected, restrained, and otherwise rendered safe by grounding, blocking, bleeding, etc.?			
Have switches or levers that could be moved into the “start” position been blocked, clamped or chained?			
Step 7 – Verify That All Energy Has Been Released/Controlled	Yes	No	N/A
Have the start switches on the equipment been tested?			
Have pressure gauges been checked to ensure that lines are depressurized?			
Are blocks or cribs secured?			
Have electrical circuits been checked to verify that voltage is at zero energy?			
Are blanks used to block feed chemicals secure and not leaking?			
<b>If you have answered “Yes” to all above questions, begin working. If not, go back to each “No” question and resolve the problem.</b>			

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<b>When service or maintenance is complete, follow restart procedures.</b>			
<b>Step 8 – Machine/Equipment Check</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Are all machine components operational?			
Are all safety guards in place?			
Have all tools been removed from the machine?			
Have all braces, pins, blocks and chains been removed?			
Are all pressure tubing, pipes and hoses connected with valves closed?			
<b>Step 9 - Verification</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Are the operating controls in the “off” or “safe” position?			
Is the work area clear for mechanical operation?			
<b>Step 10 – Remove Lockout and Tagout Devices</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
<b>Step 11 – Remove Isolation</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Has the machine or equipment been reconnected to its energy source?			
<b>Step 12 – Notification</b>	<b>Yes</b>	<b>No</b>	<b>N/A</b>
Have all affected employees been notified that the lockout/tagout devices have been removed and work is completed?			
<b>If you answered “Yes” to all the above questions, start up the equipment. Otherwise, go back to each “No” question and resolve the problem.</b>			
<b>Attach your completed “Lockout Checklist and Safe Startup Checklist” to your work order and return it to your supervisor.</b>			



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## Attachment B – Machine-Specific Energy Control Form

<b>Building:</b>
<b>Floor:</b>
<b>Machine Name:</b>
<b>Machine Location:</b>
<b>Approved By:</b>
<b>Approval Date:</b>

### Special Lockout/Tagout Instructions

*List any special instructions for this machine below.*
