

## Attachment G: Permits: LOTO

Department of Veterans Affairs  
VA Connecticut Healthcare System  
West Haven Campus

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Facilities Management Service Policy No. 8

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LOCKOUT/TAG-OUT POLICY

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## I. POLICY:

All employees will be protected from injuries caused by **unexpected** energizing or start up of machines or equipment, or release of stored energy during service, repair, maintenance, operation, and associated activities. This policy establishes **minimum** performance requirements for the control of such potentially hazardous conditions. This will be accomplished by locking out and tagging out energy isolating devices, and otherwise disabling machines or equipment, to prevent unexpected energizing, start-up or release of stored energy.

## II. DEFINITIONS:

**A. Affected Employee:** An employee whose job requires him/her to operate or use a machine or equipment on which maintenance or repair is being performed under this lockout/tag-out policy, or whose job requires him/her to work in an area in which such maintenance or repair is being performed.

**B. Authorized Individual:** A knowledgeable individual to whom the supervisor has given the authority and responsibility to lock or implement a lockout/tag-out procedure on machines or equipment to perform maintenance or repair. An authorized individual and an affected employee may be the same person when the affected employee's duties also include performing maintenance or repair of a machine or equipment that must be locked and tagged out.

**C. Knowledgeable Individual:** An individual who is qualified to operate the controls or equipment and is familiar with the effects of operation.

**D. "Capable of being locked out":** An energy isolating device will be considered to be capable of being locked out if it has any of the following:

- A hasp or other attachment or integral part to which, or through which, a lock can be affixed,
- A locking mechanism built into it, or
- A lock-out that can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

**E. 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, a slide gate, a slip blind, spectacle flange, a line valve, blocks, and similar devices with a visible indication of the position of the device. **(Push buttons, selector switches, and other control-circuit type devices are not energy isolating devices.)**

**F. Energy Source:** Any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy source that could cause injury to personnel. .

**G. Lockout Device:** A device that utilizes a lock and key to hold an energy isolating device in the safe position and prevents a machine or equipment from being energized.

**H. Lockout/Tag-out:** The placement of a lock and tag on the energy isolating device in accordance with an established procedure, indicating that the energy isolating device shall not be operated until removal of the lock/tag in accordance with an established procedure. A "lockout/tag-out requires the workers to place a combination of a lockout device and a tag-out tag on each locked out device.

**I. Maintenance and Repair:** Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining machines or equipment. These activities include but are not limited to lubrication, cleaning or un-jamming machines or equipment and making adjustments or tool changes, where the employee may be exposed to the **unexpected** start-up of the equipment or release of hazardous energy.

**J. Tag-out Device:** A prominent warning device, such as a tag, that can be securely attached to equipment or machinery for the purpose of warning personnel not to operate an energy isolating device and identifying the applier or authority who has control of the procedure.

### III. RESPONSIBILITY:

#### A. Supervisor (or Acting Supervisor):

- Maintains awareness of all aspects of the Facilities Management Service lockout/tag-out policy.
- Ensures that all employees under their supervision understand the requirements for compliance with this policy and are made aware of the lockout/tag-out procedure and are issued appropriate locks/tags.
- Conducts a periodic inspection of the energy control procedure at least annually to ensure that the procedure and the requirements of this policy are being followed.
- Certifies that the periodic inspections have been performed.
- Maintains lockout/tag-out log book.

**B. Employee:** Maintains awareness of all aspects of the lockout/tag-out policy and complies with all procedures. Entry of items locked out in lockout/tag-out log book.

#### C. Safety Office:

- Provides necessary employee training for lockout/tag-out procedures.
- Conducts periodic inspections of work sites to ensure compliance with lockout/tag-out procedures.
- Provides guidance regarding the applicability of the lockout/tag-out policy.

Approves/disapproves exceptions of the lockout/tag-out policy

## IV. PROCEDURES:

**A. Lockout/Tag-out:**

1. Implementation of lockout/tag-out shall be performed only by authorized employees.
2. Before any employee performs any maintenance or repair of a machine or equipment where unexpected start up or release of stored energy could occur and cause injury, the machine or equipment shall be isolated, and rendered inoperative.
3. If an energy-isolating device is capable of being locked out, then this policy requires that a lockout and tag-out be utilized. If an energy-isolating device is not capable of being locked out, then a tag-out shall be utilized.
4. Whenever major replacement, repair, renovation or modification of machines or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machines or equipment shall be designed to accept a lockout device.
5. The following devices contain high voltage power supplies that can be tagged out, but not locked out:

Procedures during repairs on above devices shall include at least two persons. One person shall be at the disconnect area, while the other person performs repair and/or testing.

**B. Energy Control Procedure:**

1. Facilities Management Service (FMS) shall develop, document and utilize procedures to control potentially hazardous energy when employees are engaged in the activities covered by this policy.

**Exceptions to this requirement are listed in Appendix 1.** It should be noted that most maintenance and repairs at the facility would be covered by one or more of these exceptions.

2. Procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy. The means to enforce compliance include, but are not limited to, the following:

A specific statement of the intended use of the procedure;

Specific procedural steps for shutting down, isolating, blocking and securing machines or equipment to control hazardous energy;

Specific procedural steps for the placement, removal and transfer of lockout devices or tag-out devices and the responsibility for them; and

Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tag-out devices, and other energy control measures.

**3. Protective Materials and Hardware:**

A. Lockout and tag-out devices shall be provided by the supervisor of each shop and shall be the only authorized device(s) used for lockout/tag-out of energy devices and shall not be used for other purposes.

B. Lockout devices are identified by the word "SAFETY" stamped in red on each device. Each lockout device is to be stamped with the employees name and color coded to indicate type of trade or craft. Each employee will be issued two keys and no two key configurations shall be the same. No one else shall have duplicate keys. Proper tags are shown in Appendix 2.

C. Tag-out devices, including their means of attachment, shall be substantial enough to prevent inadvertent or accidental removal. Attachment means shall be a one-piece, nylon cable tie that shall be non-reusable, self-locking and non-releasable with a minimum unlocking strength of no less than 50 pounds.

**4. Periodic Inspections:**

A. The shop supervisor will conduct a periodic inspection of the energy control procedure at least annually to ensure that the procedures and the requirements of this policy are being followed.

B. The periodic inspections shall be performed by an authorized shop employee other than the one(s) utilizing the energy control procedure being inspected. The inspections shall be designed to correct any deviations or inadequacies observed.

C. 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.

D. The inspector 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 employees included in the inspection and the person performing the inspection.

Copies of the inspection report shall be sent to the supervisor of the shop involved and the Safety office.

**5. Training and Communication:**

A. The Safety office will provide joint training to ensure that the purpose and function of the energy control program is understood by employees and that the knowledge and skills required for the safe application, usage, and removal of energy controls are required by employees. The training will include the following:

1. Recognition of hazardous energy sources, the type and magnitude of the energy available in the workplace, and methods and means necessary for energy isolation and control.
2. Instruct each affected employee in the purpose and use of the energy control procedure.

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

4. Train employees in the limitations of tags when tags are used in lieu of lockout devices.

Retraining will 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.

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

B. The Safety office will 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.

#### **6. Procedures (Appendix 2) (Appendix 3- Lockout/Tag-out Checklist)**

##### **A. Preplanning for Lockout (Preparation for Shutdown)**

1. An initial survey shall be made to determine which switches, valves, or other energy isolating devices apply to the equipment being locked out. More than one energy source (electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or others) may be involved. Any questionable identification of sources shall be cleared by the employees with their supervisors. Before lockout commences, job authorization should be obtained from the supervisor.

2. Only supervisors or authorized individuals shall prescribe the appropriate duties and responsibilities relating to the actual details of affecting the lockout/tag-out. Energy isolating devices shall be operated only by authorized individuals or under the direct supervision of authorized individuals. When disconnecting voltages greater than 480V, the supervisor electrician shall be responsible for turning off the main power controls.

3. All energy isolating devices shall be adequately labeled or marked to indicate their function. The identification shall include the following:

- equipment supplied
- energy type and magnitude

4. Where system complexity requires, a written sequence in checklist form should be prepared for equipment access, lockout/tag-out, clearance, release, and start-up.

##### **Lockout/Tag-out Procedures (Appendix 2)**

**1) Preparation.** Notify all affected employees that a lockout is required and the reason therefore.

**2) Machine or Equipment Shutdown.** If the equipment is operating, shut it down by the normal stopping procedure (depress stop button, open toggle switch, etc.). Disconnect switches should never be pulled while under load, because of the possibility of arcing or even explosion. Personnel knowledgeable of equipment operation should be involved with shut down or re-start procedures.

**3) Machine or Equipment Isolation.** Operate the switch, valve, or other energy isolating device so that the energy source(s) (electrical, mechanical, hydraulic, etc.) is (are) disconnected or isolated from the equipment. Stored energy, such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc., must also be dissipated, disconnected, or restrained by methods such as grounding, repositioning, blocking, bleeding-down, etc. Pulling fuses is not a substitute for locking out. A yanked fuse is no guarantee the circuit is dead, and even if it were dead, there is nothing to stop someone from unthinkingly replacing the fuse.

**CAUTION:** Intermittently operating equipment such as pumps, blowers, fans, and compressors may seem harmless when dormant. Don't assume that because equipment isn't functioning, it will stay that way.

**4) Application of Lockout/Tag-out.** Lockout and tag the energy isolating device with an assigned individual lock, even though someone may have locked the control before you. You will not be protected unless you put your own padlock on it. For some equipment it may be necessary to construct attachments to which locks can be applied. An example is a common hasp to cover an operating button. Tags shall be attached to the energy isolating device(s) and to the normal operating control and shall be attached in such a manner as to preclude operation.

**5) Verification of Isolation.** After ensuring that no personnel can be 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. If there is a possibility of accumulating stored energy to a hazardous level, verification of isolation shall be continued until the maintenance or repair is completed, or until the possibility of such accumulation no longer exists.

**CAUTION:** Return operating controls to neutral position after the test. A check of system activation (e.g. use of voltmeter for electrical circuits) should be performed to assure isolation.

The equipment is now locked out.

**a. Release from Lockout/Tag-out**

- 1) Before lockout or tag-out devices are removed and energy is restored to the machine or equipment, inspect the work area to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.
- 2) Check work area to ensure that all employees are in the clear.
- 3) Notify affected employees that lockout/tag-out devices have been removed.
- 4) Each lockout/tag-out device shall be removed from each energy isolating device by the employee who applied the device. The energy isolating devices may be opened or closed, i.e., circuit breakers, to restore energy to equipment.

**b. Lockout/Tag-out Interruption (Testing of Energized Equipment)**

In situations where the energy isolating device(s) is locked/tagged and there is a need for testing or positioning of the equipment/process, the following sequence shall apply:

- 1) Equipment/process of tools and materials.
- 2) Clear personnel.
- 3) Clear the control of locks/tags according to established procedure.
- 4) Proceed with test, etc. De-energize all systems and re-lock/re-tag the controls to continue the work.

a. **Outside Personnel (Contractors, etc.)**

- 1) Whenever outside service personnel are to be engaged in activities covered by the scope and application of this policy the Safety office and **all** contractors (including on-site contractors) shall inform each other of their respective lockout or tag-out procedures.
- 2) The Safety office shall ensure that FMS personnel understand and comply with the restrictions and prohibitions of any contractor's energy control procedures. Contractors shall ensure that their personnel do likewise for FMS policies as well as other contractor's policies.

b. **Procedure Involving More Than One Person**

In the preceding steps, if more than one individual is required to lock out equipment, each shall place a personal lock and tag on the group lockout device when he/she begins work, and shall remove those devices when he/she stops working on the machine or equipment. The supervisor, with the knowledge of the crew, may lock out equipment for the whole crew. In such cases, it shall be the responsibility of the supervisor to carry out all steps of the lockout procedure and inform the crew when it is safe to work on the equipment. Additionally, the supervisor shall not remove a crew lock until it has been verified that all individuals are clear.

c. **Shift Change Coordination**

Supervisors shall ensure the continuity of lockout/tag-out protection during shift or personnel changes. Each worker shall be responsible for removing his own padlock and tag at the completion of his shift. If work is to cease until the following day the supervisor shall place his personal padlock and tag on the equipment and the workers shall remove their padlocks and tags. When work resumes the workers shall affix his personal lock and tag to the equipment and the supervisor shall remove his lock and tag.

d. **Conditions for Padlock Removal by the General Foreman**

Lockout/tag-out devices shall be removed only by the owner of the device except in the following situations:

- 1) Owner incapacitated by illness, etc.
- 2) Owner no longer works for FMS
- 3) Owner is on leave and cannot be reached by telephone. If the owner is reached and the situation warrants then he/she will be required to come to work and remove the padlock.
- 3) If the General Foreman determines that circumstances warrant the removal of a lockout/tag-out device, every effort must be made to contact the owner of the device. After the above conditions have been met the General Foreman may remove the device in the presence of a member of the Safety office. A padlock shall not be cut but may be removed by changing the core of the lock.

V. REFERENCES:

U.S. Department of Labor, OSHA regulations, 29 CFR 1910.147, "Control of hazardous energy sources (lockout/tag-out)" standard: U.S. Department of Labor, OSHA regulations, 29 CFR 1910.145, "Specifications for Accident Prevention Signs and Tags" standard.

VI. RESCISSION:

April 9, 2003

VII. REVIEW DATE:

GARY BOUCHER

Chief, Facilities Management Service

Att.

cc: 138 Supervisors



## APPENDIX 1

**EXCEPTION:** It is not necessary to document the required procedure for a particular machine or equipment, when all of the following elements exist:

1. The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees;
2. The machine or equipment has a single energy source which can be readily identified and isolated;
3. The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment;
4. The machine or equipment is isolated from that energy source and locked out during servicing or maintenance;
5. A single lockout device will achieve a locked-out condition;
6. The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance;
7. The servicing or maintenance does not create hazards for other employees; and
8. The shop supervisor, in utilizing this exception, has had no accidents involving the unexpected activation or start-up of the machine or equipment during maintenance or repair activities.

## APPENDIX 2

**PROCEDURE:** The established procedure for the application of lockout/tag-out shall cover the following elements and actions and shall be done in the following sequence.

**Preparation for shutdown.** Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

**Machine or equipment shutdown.** The machine or equipment shall be turned off or shut down using the procedures required by this standard. An orderly shutdown must be utilized to avoid any additional or increased hazards(s) to employees as a result of equipment being de-energized.

**Machine or equipment isolation.** All energy isolating devices that are needed to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

**Lockout or tag-out device application.**

**Stored energy.** Following the application of lockout or tag-out devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

**Verification of Isolation.** Prior to starting work on machines or equipment that have been locked out or tagged-out, the authorized employee shall verify that the machine is isolation and de-energized prior to work. **Release from lockout or tag-out.**