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Program for the Control of Hazardous Energy/Lockout and Tagout

This procedure outlines for the Oklahoma Department of Corrections (ODOC) the authorization, guidelines, rules, and techniques to be used to guard against the unexpected energizing, start-up, or release of stored energy that could cause injury or death, as well as the guidelines for affixing appropriate lockout/tagout devices to energy-isolating devices.

I. Policy

Each facility will ensure that, before an employee or inmate performs any activities where the unexpected energizing, start-up or release of stored energy could occur, appropriate lockout/tagout guidelines will be followed.

II. Definitions

A. Affected Employee

An employee whose job requires them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout/tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.

B. Authorized Employee

The person who services and performs maintenance on machinery or equipment that requires the use of lockout/tagout procedures and will be the person who installs the actual lockout/tagout devices.

C. Capable of Being Locked Out

An energy-isolating device capable of being locked out by either a hasp or other attachment or integral part to which or through which a lock can be affixed or if it has a locking mechanism built into it. Other energy-isolating devices will be considered 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.

D. Energized

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

E. Energy-Isolating Device

1. 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;
 - b. A disconnect switch;

- c. A manually-operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors;
- d. A pole that can be operated independently;
- e. A slide gate;
- f. A slip blind;
- g. A line valve;
- h. A block; and
- i. Any similar device used to block or isolate energy.

2. The term does not include a push button, selector switch or other control circuit type devices.

F. Energy Source

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

G. Facility

An institution, community corrections center, community work center or other unit operating/maintaining equipment/machines, which may require energy isolation.

H. Lockout

The placement of a lockout device on an energy-isolating mechanism that ensures the energy-isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

I. Lockout Device

A device that uses a positive means, such as a lock, to hold an energy-isolating device in the safe position and prevent the energizing of a machine or piece of equipment.

J. Normal Production Operations

The use of a machine or piece of equipment to perform its intended production function.

K. Primary Authorized Employee

The authorized employee with the responsibility for a set number or group of workers performing service or maintenance on machines or equipment subject to lockout/tagout procedures.

L. Servicing and Maintenance

Lockout/tagout must be used when constructing, installing, adjusting, inspecting, modifying and maintaining/servicing machines or equipment. Examples of activities include lubricating, cleaning or un-jamming of machines or equipment. In addition, lockout/tagout must be used when making adjustments and tool changes that have the potential of placing the employee at risk.

M. Setting Up

Any work performed to prepare a machine/equipment to perform its normal production operation.

N. Tagout

The placement of a tagout device on an energy-isolating mechanism that indicates the energy-isolating device and the equipment being controlled may not be operated until the tagout device is removed.

O. 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 that indicates the device and the equipment being controlled, may not be operated until the tagout device is removed. Tags must indicate the following:

1. Name of the person attaching the tag;
2. The reason the tag was attached;
3. Name of person authorized to remove the tag; and
4. Time and date tag was signed.

The machine being controlled may not be operated until the tagout device is removed.

III. Authorization

A. Designation of Authority

Facility/units will implement the lockout/tagout procedure and ensure that employees are trained. This responsibility may be delegated to another person or persons such as a safety consultant, maintenance staff, etc., within the facility/unit, provided it is in writing and the designated person is

competent and qualified, through completion of specialized training. This person will authorize employees to implement the lockout/tagout system procedure.

B. Implementation

An authorized employee will use the lockout/tagout procedure on machines/equipment when performing service/maintenance or on a machine in which the unexpected energizing, start-up, or release of stored energy could cause injury or death.

IV. Rules

A. Site Specific Procedures

The facility/unit head or designee will establish and document lockout/tagout procedures for each identified machine/piece of equipment requiring energy-isolation. Procedures will be developed utilizing the "Lockout/Tagout Site Specific Procedure" form ([Attachment B](#), attached) and will meet the guidelines outlined in this procedure.

B. Procurement of Devices

1. Specialized lockout devices will be obtained and kept within the facility/unit where they are to be used.
2. The facility/unit maintenance department maintains a standard supply of frequently used lockout/tagout devices. Employees will check out these devices when they are not available to them in their department.

C. Tagout Exception

If an energy-isolating device is capable of being locked/ out, the authorized employee will use lockout unless the facility/unit head or designee can demonstrate that use of a tagout system will provide full employee protection. When a tagout device is used on an energy-isolating device capable of being locked out, the tagout device will be attached at the same location that the lockout device would have been attached.

D. Device Specifications

A standard tag will accompany all lockout devices used for implementing this program. These devices will be used for no other purpose than lockout and will be substantial enough to prevent removal without the use of excessive force or unusual techniques. Tagout devices, including their means of attachment, will be substantial enough to prevent inadvertent or accidental removal. The tagout device attachment will 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.

E. Inspection

To ensure that the requirements of 29 C.F.R. 1910.147 Appendix A and lockout/tagout procedures are being followed, the facility/unit safety consultant/qualified designee will conduct an annual inspection of the energy control procedure utilizing the “Annual Inspection Checklist of Lockout/Tagout Procedures” form ([Attachment C](#), attached). If needed, additional inspections may be conducted.

F. Training and Communication

Safety consultants will provide training to ensure that employees understand the energy control procedure. The training records will be maintained in accordance with [OP-100101](#) entitled “Training and Staff Development.” Employees will be required to demonstrate an understanding of the safe application, usage, and removal of energy controls. Facility/unit heads or designee will certify that employee training has been conducted and is up-to-date. The resulting certification will contain each employee’s name and dates of training. The training will include, but is not limited to, the following:

1. Each authorized employee will 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.
2. Each affected employee will be instructed in the purpose and use of the energy control procedure.
3. All other employees whose work operations are, or may be, in an area where energy control procedures are implemented, will be instructed about the procedure and about the prohibition relating to attempts to restart or re-energize machines or equipment that is locked or tagged out.
4. When tagout systems are used, employees will also be trained in the following limitations of tags:
 - a. Tags are essentially warning devices affixed to energy-isolating devices and do not provide the physical restraint on those devices that is provided by lockout.
 - b. When a tag is attached to an energy-isolating means, it is not to be removed without authorization of the person responsible for applying it and it is never to be bypassed,

ignored, or otherwise defeated.

- c. Tags must be legible and understandable by all authorized employees, affected employees and all other persons whose work operations are, or may be, in the area in order to be effective.
 - d. Tags and their means of attachment must be made of materials that will withstand the environmental conditions encountered in the workplace.
 - e. Tags may evoke a false sense of security and their meaning needs to be understood as part of the overall energy control program.
 - f. Tags must be securely attached to energy-isolating devices so that they cannot be inadvertently or accidentally detached during use.
5. All authorized and affected employees will be retrained whenever there is a change in their job assignments, such as a change in machines, equipment, or a process that presents a new hazard; or when there is a change in energy control procedures. Retraining will establish employee proficiency and introduce new or revised control methods and procedures as necessary.
 6. Additional retraining will also be conducted whenever the annual inspection reveals, or whenever the facility/unit head or designee has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

V. Techniques

Only authorized employees will implement the lockout/tagout system. The authorized employee will notify affected employees of the application and removal of lockout/tagout devices. Notification will be given before the controls are applied and after they are removed from the machine or equipment.

This procedure establishes the application of energy control, covers the following elements and actions, and will be done in the following sequence:

A. Equipment

1. Ensure that needed equipment is available before performing lockout/tagout.
2. Needed equipment includes, but is not limited to the following:

- a. An approved lock and tag identifiable to an individual employee;
- b. The required test equipment (meter or equipment for measuring temperature, pressure or voltage, etc.); and
- c. Personal protective equipment (PPE).

B. Preparation for Shutdown

Before an authorized employee turns off a machine or piece of equipment, they will have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled and the methods or means to control the energy. In addition, they must:

1. Physically locate all energy-isolation devices using schematics or prints;
2. Notify all personnel in the affected or proposed affected areas before the shut down; and
3. Ensure proper PPE is available and used.

C. Machine or Equipment Shutdown

An orderly shutdown must be used to avoid any additional or increased hazard(s) to employees because of equipment de-energizing.

D. Machine or Equipment Isolation

All energy-isolating devices needed to control the energy to the machine or equipment will be physically located and isolated from its energy source(s). It must be determined if there are multiple energy sources for the type of equipment on which the work is being performed.

E. Lockout/Tagout Device Application

Authorized employees will affix lockout/tagout devices to each energy-isolating device. Lockout devices will be affixed in a manner that will hold the energy in a "safe" or "off" position. Tagout devices will be affixed in a manner that clearly indicates the operation or movement of energy-isolating devices from the "safe" or "off" position is prohibited.

1. Application of Locks
 - a. Authorized employees will apply their padlock to the disconnect switch lever to prevent operation of the energy-control point. If the lock cannot be placed directly on the energy control device, a special lockout device such as

covers for valve hand-wheels, locking devices for ¼ turn valves or position-restricting devices for toggle switches, or circuit breakers will be used.

- b. Each employee that applies a lock must keep their own key in their immediate possession. Multiple-lock adapters can be used to allow several locks to be applied to a single energy-isolating device.

2. Application of Tags

Where tagout devices are used with energy-isolating devices designed with the capability of being locked, the tag will be fastened at the same point at which the lock would have been attached.

It might be impossible to attach a lock to equipment installed before January 2, 1990. If possible, the system should be rendered safe by removing a circuit element, blocking a controlling switch, removing a valve handle, inserting a blank flange, or operating the next upstream disconnecting device. After this action, the equipment should be tagged out. The intention is to make tagout as safe as lockout.

Requirements of tagout devices include:

- a. Secure tags using a non-reusable nylon cable tie, suitable for the environment with strength of not less than 50 pounds.
- b. Where a tag cannot be affixed directly to the energy-isolating device, the tag will be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

3. When Lockout is Not Required

If electrical equipment operates only by cord and plug and if the plug is in sight and under the exclusive control of the employee performing the service, no lockout/tagout is required. This provision applies ONLY to cord and plug connection equipment and does not extend to any other equipment. If a device is wired to a circuit breaker or disconnect switch, then lockout is required.

F. Multiple Sources of Energy

In cases where machinery has more than one source of energy, the facility/unit head or designee will develop specific lockout/tagout procedures in accordance with the manufacturer's recommendations and documented according to Section V. item A. of this procedure. Machines

having more than one source of energy will be identified at each work location so that employees who are performing work will know the correct steps to take in order to prevent an unplanned release of energy. A list of multiple-energy machinery will be kept and made available to staff, inmate workers and contract workers.

G. Documentation of Lockout/Tagout

The use of lockout/tagout must be documented and maintained in a logbook or computer database located at each facility or work location. Each time lockout/tagout is used, "Steps to Control Hazardous Energy" ([Attachment A](#), attached) must be completed by the person performing the lockout/tagout and reviewed by the maintenance supervisor or designated staff before application.

H. Stored Energy

Following the application of lockout/tagout devices to energy-isolating devices, all potentially hazardous stored energy will be rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation will be continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

1. Staff will dissipate or retain stored or residual energy (i.e. capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, air, gas, steam, or water pressure) by grounding, repositioning, blocking, and/or bleeding down.
2. Acceptable methods of dissipation include leaving vent or drain valves open on pressurized hydraulic or pneumatic systems etc.
3. Staff will short or ground appropriate electrical components to prevent any re-accumulation of energy.

I. Verification of Isolation

Before starting work on machines or equipment that have been locked out or tagged out, the authorized employee will verify that isolation and de-energizing of the machine or equipment has been accomplished. This can be accomplished by operating all the start switches. Verification should only be performed when there is no danger to personnel. All rotary or toggle switches will be returned to the off or neutral position after testing to ensure the equipment does not automatically start when power is restored.

J. Release from Lockout/tagout

Before lockout/tagout devices are removed and energy is restored to the machine or equipment, procedures will be followed and actions taken by

the authorized employee(s) to ensure the following:

1. Machine or Equipment

The work area will be inspected to ensure that nonessential items have been removed and that machine or equipment components are operationally intact.

2. Employees

The work area will be checked to ensure that all employees and inmates have been safely positioned or removed. Before lockout/tagout devices are removed and before machines or equipment are energized, affected employees and inmates will be notified.

K. Lockout/Tagout Device Removal

Only the employee who applied the device will remove each lockout/tagout device from each energy-isolating device. Exceptions will be as follows:

1. When the authorized employee who applied the lockout/tagout device (installer) is not available to remove it, the device may be removed under the direction of the installer's immediate supervisor.
2. Each department involved in lockout/tagout operations will provide specific training on the procedures for device removal. The training will be documented and maintained in accordance with this procedure. The documentation/training will demonstrate that safety, equivalent to the original process of having only the installer remove the device, is maintained. The specific training will include, at a minimum, the following elements:
 - a. Verification by the immediate supervisor that the employee who applied the device is not at the facility;
 - b. Making all reasonable efforts to contact the authorized employee to inform them that their lockout/tagout device has been removed; and
 - c. Ensuring that the authorized employee and any other worker performing work on the equipment in question, has been notified before they resume work at the facility.

L. Testing or Positioning of Machines, Equipment, or Components

In situations where lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized

to test or position the equipment or component thereof, the following sequence of actions will be followed:

1. Clear the machine or equipment of tools and materials;
2. Remove employees and inmates from the machine or equipment area;
3. Remove the lockout/tagout devices;
4. Energize and proceed with testing or positioning; and
5. De-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

M. Outside Personnel

Whenever outside servicing personnel (i.e., contractors, etc.) are to be engaged in activities covered by the scope and application of this program, the designated facility/unit representative and the outside employer will ensure that their personnel understand and comply with restrictions and prohibitions of the outside employer's energy control procedures. If the outside employer has no documented lockout/tagout procedures, the facility/unit representative will ensure that the outside employer's personnel understand and comply with the procedures established in this program.

N. Group Lockout/tagout

When a crew or department performs servicing or maintenance, they will use a procedure that affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout/tagout device, which will be accomplished by:

1. The application of a multi-lock accepting device by the primary authorized employee to the energy-isolating device;
2. The primary authorized employee attaching their lock to the multi-lock accepting device;
3. Each authorized employee will affix a personal lockout/tagout device to the multi-lock accepting device when they begin work and will remove those devices when they stop working on the machine or equipment being serviced or maintained; and
4. The primary authorized employee will remove their lock and the multi-lock accepting device when all service or maintenance has been completed.

O. Shift or Personnel Changes

To ensure the orderly transfer of lockout/tagout devices between off going and oncoming employees and to minimize exposure to hazards from unexpected energizing, start-up of the machine or equipment, or release of stored energy, the following procedures will be followed:

1. The oncoming personnel will notify the off going personnel that they are ready to begin work on the machine or equipment;
2. All lockout/tagout devices attached to the machine/equipment by the off going personnel will be removed and immediately replaced with like devices by the oncoming authorized personnel; and
3. The primary authorized employee will ensure that all pertinent coordination between off going and oncoming personnel has been completed before the oncoming personnel begin work on the machine or equipment and that all necessary energy has been rendered safe.

VI. References

OP-100101 entitled "Training and Staff Development"

OSHA 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout)

VII. Action

The director of Environmental Health and Safety and the deputy directors/affected directors are responsible for compliance with this procedure.

The chief compliance officer is responsible for the annual review and revisions.

Any exceptions to this procedure will require prior written approval from the agency director.

This procedure is effective as indicated.

Replaced: Operations Memorandum No. OP-150330 entitled "Program for the Control of Hazardous Energy/Lockout and Tagout" dated September 9, 2019

Distribution: Policy and Operations Manual
Agency Website

<u>Attachments</u>	<u>Title</u>	<u>Location</u>
Attachment A	“Steps to Control Hazardous Energy”	Attached
Attachment B	“Lockout/Tagout Site Specific Procedure”	Attached
Attachment C	“Annual Inspection Checklist of Lockout/Tagout Procedures”	Attached