Purpose

The standard, on which all lockout/tagout programs are based is OSHA Standard 29 CFR 1910. 147 "The Control of Hazardous Energy." The objective of this procedure is to establish a means of positive control to prevent the accidental starting or activating of machinery or systems while they are being repaired, cleaned, and/or serviced.

The standard mandates the evaluation of equipment present in a workplace that could expose an employee to injury if the equipment were to accidentally be started or expose them to injury if an unexpected release of hazardous energy were to occur.

Introduction

It is the Town of Collierville's policy that the first consideration of work shall be the protection of the safety and health of all employees. We have developed this Lockout/Tagout Plan to ensure that all employees are properly trained on the equipment they are exposed to and the potential hazards of such equipment if not properly tagged and locked out during maintenance and repair.

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, whose job requires him/her to work in an area in which 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.

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.

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.

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 slip blinds.

Tagout: The placement of a tagout 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.

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.

The Lockout/Tagout Plan

1. The Lockout/Tagout Plan consists of five objectives:

    - Establish a safe and positive means of shutting down machinery, equipment, and systems.
    - Prohibit unauthorized personnel or remote control systems from starting machinery or equipment while it is being serviced.
    - Provide a secondary control system (tagout) when it is impossible to positively lockout the machinery or equipment.
    - Establish responsibility for implementing and controlling lockout/tagout procedures.
    - Ensure that only approved locks, standardized tags and fastening devices provided by the Town will be utilized in the lockout/tagout procedures.

2. The Risk Management/Safety Program Coordinator is the coordinator for the Lockout/Tagout Plan. Ensuring that personnel has been properly trained, evaluation of the plan occurs annually, proper lockout/tagout equipment is available and being used, and all procedures are up to date will be the responsibility of the Risk Management/Safety Program Coordinator.

Assignment of Responsibility

Each department will have responsibility for identifying the employee that will be in charge of implementing the lockout/tagout program within that department. The responsible person identified for each department will be accountable for enforcing the program and ensuring compliance with the procedures in their department.

The Risk Management/Safety Program Coordinator is responsible for monitoring the compliance of this plan and will conduct random inspections of each department responsible for a lockout/tagout program.

Authorized employees are responsible for following established lockout/tagout procedures. See the definitions section of this plan (page 1 of 12) to see who would be considered an authorized employee.

Affected employees are responsible for ensuring they do not attempt to restart or re-energize machines, vehicles, or equipment that are locked out or tagged out. See the definitions section of this plan (page 1 of 12) to see who would be considered an affected employee.

Lockout Equipment

Padlocks: Each department will provide standardized safety locks by brand, color, shape, or label, etc. so that they are easily recognizable as safety lockouts. No other type of lock can be used for lockout, and lockouts may not be used for any other purposes.

Lockout Tags: Each department will provide lockout tags. Tags and labels must 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. As with locks, tags must be standardized for the workplace and be easily recognizable as safety lockout tags. The minimum information that should be on a tag is

- The word **"DANGER"**
- Wording that indicates that someone's safety is in jeopardy if it is overridden – such as **"DO NOT START"** or **"LOCKED OUT"**.
- The employee's name that it represents and protects.

Multiple Lockout Hasps are attached to lockout points to allow multiple employees to lockout.

Valve lockout equipment suitable for the valves your employees must lock out. For larger valves, this includes sections of sturdy chain. For smaller hand wheel valves, plastic "clamshell" devices are available. Several different devices are available to lockout quarter turn valves.

Circuit Breaker and Switch Lockout Devices suitable for the types of devices in the workplace.

Plug Cups if electrical plugs or hydraulic/pneumatic hoses must be disconnected and locked out on any piece of equipment.

Lock Boxes for locking up vehicle/heavy equipment keys.

A supply of Blocking, Cribbing, Pins, Mechanical Jacks, Wheel Chocks, etc. to block machinery components and elevated parts against hazardous movement.

Procedures

The ensuing items are to be followed to ensure both compliance with the OSHA Control of Hazardous Energy Standard and the safety of our employees. Attachment A (page 9 of 17) is an example of a form that can be used for written lockout procedures.

A. Preparation for Lockout or Tagout

Employees who are required to utilize the lockout/tagout procedure must be knowledgeable of the different energy sources and the proper sequence of shutting off or disconnecting energy means. The four types of energy sources are:

1. Electrical
2. Hydraulic or pneumatic
3. Fluids and gases
4. Mechanical

More than one energy source may be utilized on some machines, vehicles, and equipment and the proper procedures must be followed in order to identify energy sources and lockout/tagout accordingly.

B. Electrical

1. Notify affected employees that equipment is being locked out or tagged out for maintenance.
2. Shut off power at the energy isolating device.
3. Disconnecting means must be locked or tagged.
4. Press start button to see that correct systems are locked out.
5. All controls must be returned to their safest position.
6. Points to remember:
    a. If a machine or piece of equipment contains capacitors, they must be drained of stored energy.
    b. Possible disconnecting means include the power cord, power panels, breakers, the operator's station, motor circuit, relays, limit switches, and electrical interlocks.
    c. Some equipment may have a motor isolating shut-off and a control isolating shut-off.
    d. If the electrical energy is disconnected by simply unplugging the power cord, the cord must be kept under the control of the authorized employee or the plug end of the cord must be locked out or tagged out.

C. Hydraulic/Pneumatic

1. Notify affected employees that equipment is being locked out or tagged out for maintenance.
2. Shut off all energy sources (pumps and compressors). If the pumps and compressors supply energy to more than one piece of equipment or vehicle lockout or tagout the valve supplying energy to the piece of equipment being serviced.
3. Stored pressure from the hydraulic/pneumatic lines shall all be drained/bled when release of stored energy could cause injury to employees.
4. Make sure controls are returned to their safest position (off, stop, standby, inch, jog, etc.)

D. Fluids and Gases

1. Notify affected employees that equipment is being locked out or tagged out for maintenance. Identify the type of fluid or gas and the necessary personal protective equipment.
2. Close valves to prevent flow, and lockout/tagout.
3. Determine the energy isolating device, then close and lockout/tagout.
4. Drain and bleed lines to zero energy state.
5. Some systems may have electrically controlled valves. If so, they must be shut off and locked/tagged out.
6. Check for zero energy state of the equipment.

E. Mechanical Energy

1. Notify affected employees that equipment is being locked out or tagged out.
2. Block out or use die ram safety chain.
3. Lockout or tagout safety device.
4. Shut off, lockout or tagout electrical system.
5. Check for zero energy state.
6. Return controls to safest position.

F. Motor Vehicles: Appendix A (pages 16 - 17) is a procedure for lockout/tagout of motor vehicles and mobile equipment.

G. Release from Lockout/Tagout

1. Inspection: Make certain the work is completed and inventory the tools and equipment that were used.
2. Clean up: Remove all towels, rags, work-aides, etc.
3. Replace guards: Replace all guards. Sometimes a guard may have to be left off until the start sequence is over due to possible adjustments. However, all other guards should be put back into place.
4. Check controls: All controls should be in their safest position.
5. The work area shall be checked to ensure that all employees have been safely positioned or removed and notified that the lockout/tagout devices are being removed.
6. Remove locks/tags. Remove only your lock or tag.
7. Notify affected employees that lockout has been removed.

H. Exceptions to Requiring Lockout

1. Work on cord and plug equipped equipment where the plug can remain under the control of the employee performing the work and unplugging the cord completely isolates all hazardous energy.
2. Normal operating procedures that are “routine, repetitive, and integral to the use of the

equipment."

I. Service or Maintenance Involving More than One Person

When servicing and/or maintenance is performed by more than one person on the same machine, vehicle, or equipment each authorized employee shall place his own lock or tag on the energy isolating source. This shall be done by utilizing a multiple lock scissors clamp if the equipment is capable of being locked out. If the equipment cannot be locked out, then each authorized employee must place his tag on the equipment.

J. Removal of an Authorized Employee's Lockout/Tagout by Someone Other than the Authorized Employee

The following written emergency procedures that comply with 1910.147(e)(3) will be followed in the event that the authorized employee who originally applied the lockout/tagout device is unavailable to remove their lockout/tagout device.

1. Verification by the department manager that the authorized employee who applied the device is not in the facility.
2. Ensure that all efforts are made to inform the authorized employee that his/her lockout or tagout device must be removed.
3. If the authorized employee is unable to return to work, the department manager may use the bolt cutters to remove the lock.
4. Ensure that the authorized employee has the knowledge *before* he/she resumes work at the facility.
5. All such actions must be recorded on Attachment B (page 10 of 17).

K. Shift or Personnel Changes

If a lockout procedure will extend into the following shift, the lock and tag of the authorized employee arriving shall be applied before the departing authorized employee's lock and tag are removed. The departing employee is responsible for informing the arriving employee of the status of the equipment, vehicle, or machine of the energy control in place, the work in progress, and any issues that may have arisen during servicing. The responsibility of this occurring in a seamless fashion is held by an arriving or departing shift supervisor. These supervisors will be required to oversee the transfer of lockout/tagout devices and ensure that energy control is maintained throughout the transfer. A log will be kept each time the lock of an arriving employee is applied, and the lock of a departing employee is removed (Attachment C page 11 of 17).

L. Procedures for Outside Personnel/Contractors

Outside personnel/contractors shall be advised that the company has and enforces the use of lockout/tagout procedures. They will be informed of the use of locks and tags and notified about

the prohibition of attempts to restart or re-energize machines or equipment that are locked out or tagged out.

The Town will obtain information from the outside personnel/contractor about their lockout/tagout procedures and advise affected employees of this information.

M. Training and Communication

Each new authorized employee who will be utilizing the lockout/tagout procedures will be trained in the recognition of applicable hazardous energy sources, type and magnitude of energy available in the workplace, and the methods and means necessary for energy isolation and control.
Each new affected employee will be instructed in the purpose and use of the lockout/tagout procedure, and the prohibition of attempts to restart or re-energize machines or equipment that are locked out or tagged out.

Training will be certified using Certification of Training for Authorized Personnel
or Certification of Training by Affected Personnel forms. (Attachment D pages 12-13)

Retraining will be performed in the following instances:

1. If an affected employee becomes an authorized employee through a promotion or change of job duties.
2. If new equipment or energy sources are added to the workplace.
3. Whenever a periodic inspection reveals a deviation from or inadequacies in the employee's knowledge or use of the energy control procedures.
4. If annual program evaluations, accidents, near misses, or employee feedback indicate that the lockout program is not working effectively.

N. Periodic Inspection

A periodic inspection (at least annually) will be conducted of random authorized and affected employees under the lockout/tagout procedure. The inspection will consist of a physical inspection of the authorized employee while performing work under the procedures (Attachment E page 14 of 17). This inspection will be performed by the Risk Management/Safety Program Coordinator.

The Risk Management/Safety Program Coordinator shall certify in writing that the inspection has been performed (Attachment E page 15 of 17).

O. Record Keeping

The following records, related to the lockout/tagout plan will be kept on file for a minimum of three years:

1. Employee training records/attendance sheets.
2. Periodic plan evaluations.
3. Accident and near miss reports pertaining to this plan.

ATTACHMENT A

Equipment Specific Lockout Procedure Form

Machine or Equipment _____

Location _____

Authorized Employee _____

Date Implemented _____/_____/_____

1. Affected Employees to be notified: _____

2. Shutdown Procedure: _____

3. Isolation:

Energy Type/Magnitude	Isolating Device	Location	Procedure

4. Blocking of Potential Mechanical Energy:

Hazard	Equipment Needed	Placement

5. Bleed Down of Potential Energy:

Energy	Bleed Down Point	Procedure

6. Verification/Zero Energy Test

Control(s) to try	Procedure to verify isolation

RETURN ALL CONTROLS TO "STOP" OR "OFF" POSITION AFTER TESTING

ATTACHMENT B

Removal of Another Person's Device

The following steps will be followed when removal of another person's lock and/or tag is necessary. This is to be completed by the Manager that authorizes removal of the lock and/or tag and witnessed by another employee.

1. Attempt to contact the person to have him/her remove his/her lock(s) and/or tag(s).

   Employee's Name: _____ Facility/Dept: _____

   What attempt was made? (Phone, etc.): _____

   Result of contact? _____

   Date: _____ Time: _____

2. Notify the affected employee(s).

   Check the area to ensure it is clear and safe before removing the lockout/tagout device(s).

   Lock ID Name or Number(s) that was destroyed (cut off)? _____

   Person(s) involved in checking the area and removing the lockout/tagout device(s) were:

   _____

3. The individual's manager will discuss this serious matter with the employee before returning to work the following shift.

   Who held the discussion with the employee? _____

   Provide the details and/or your comments: _____

   _____

   _____

   _____

   Employee Signature: _____ Date: _____

   Witnessing Employee: _____ Date: _____

   Manager's Signature: _____ Date: _____

4. Retain a copy on site for safety records and provide a copy to the Risk Management/Safety Program Coordinator.

ATTACHMENT C

Shift or Personnel Change Activity Log

Machine, Vehicle, or Equipment: ____

Date	Time	Arriving Employee	Departing Employee	Supervisor Present

ATTACHMENT D (Page 1 of 2)

Certification of Training - Authorized Personnel

I certify that I received training as an authorized employee under the Town of Collierville Lockout/Tagout Program. I further certify that I understand the procedures and will abide by those procedures.

_____

Authorized Employee Name (Print)

_____

Authorized Employee Name (Signature)

_____

Date

ATTACHMENT D (Page 2 of 2)

Certification of Training – Affected Personnel

I certify that I received training as an affected employee under the Town of Collierville Lockout/Tagout Program. I further certify that I understand I am prohibited from attempting to re-start or re-energize machines, equipment, or vehicles that are locked out or tagged out.

_____

Affected Employee Name (Print)

_____

Affected Employee Name (Signature)

_____

Date

ATTACHMENT E (Page 1 of 2)

Program Inspection Form

Date: _____ Machine/Equipment: _____

Work Being Performed:

_____

Authorized Employees Conducting Work: _____

_____

Affected Employees Conducting Work: _____

_____

(Explain all "No" and "NA" answers)

1. Are all employees conducting work on the equipment trained as "Authorized" under the lockout program?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
2. Were all "Affected Employees" effectively notified before lockout?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
3. Can Authorized employees identify all hazardous energy sources for the equipment?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
4. Was the written lockout procedure used and followed?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
5. Were all energy isolation points locked out by all employees working on the equipment?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
6. Were all blocking and bleed down steps completed?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
7. Was a "zero energy" test conducted to ensure isolation?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____
8. Are all locks, tags, and other lockout devices of types approved by the lockout program?
   Yes _____ No _____ N/A _____
   Notes: _____
   _____

ATTACHEMENT E (Page 2 of 2)

Program Inspection Certification

I certify that _____ was inspected on this date utilizing lockout/tagout procedures. The inspection was performed while working on this equipment.

_____ _____

Authorized Employee Signature Date

_____ _____

Risk Management/Safety Program Coordinator Date

APPENDIX A

Hazardous Energy Control Procedures for Motor Vehicles and Mobile Equipment

Purpose

The purpose of this policy is to establish a program for hazardous energy control procedures as they apply to servicing and repairs to motor vehicles and mobile equipment by the Town of Collierville in accordance with regulations set forth in OSHA 29 CFR 1910.147.

Scope

This policy pertains to the Town of Collierville Fleet Services Division and/or others that would service, repair, or otherwise be involved in work being performed to a motor vehicle or piece of mobile equipment.

Procedure

Shutdown procedures

- Shift transmission to park for automatic vehicles or to neutral and set parking brake for manual vehicles.
- Turn key "off" and remove. Place key in a secure location outside of the vehicle.
- Turn engine switch to "off" (If so equipped).
- If working on electrical components, ensure generator switch is turned to the off position (If so equipped).
- Notify all affected employees that the vehicle/equipment is being locked out for maintenance.
- Place tagout device on vehicle (steering wheel cover, tags, etc.).
- Verify and isolate all hazardous energy sources by appropriate means; by placing switches, breakers, and valves in the proper position and applying locks and tags. Consult the equipment specific owners/operator's manual to determine all potential energy sources.
- Block, jack, pin, or crib any raised components and any other potential mechanical energy sources.
- Release stored energy by draining, bleeding down, disconnecting the negative battery terminal, or applying electrical grounds.
- Prior to servicing verify that isolation and de-energization has been accomplished.

Testing equipment after servicing is complete

- Replace all guards and critical equipment.
- Inspect work area and remove tools from the vehicle.
- Ensure employees are safely away from the vehicle.
- Turn engine stop switch to "On", if necessary.

- Turn generator switch to "On", if necessary.
- Ensure controls are set to their proper position.
- Start the vehicle.
- Test equipment serviced.
- If service is complete, restore to normal operations.
- If vehicle needs further repair, de-energize and reapply control measures in shutdown procedures and control of stored energy.

Restoring vehicle to normal operations

- Ensure system or equipment is fully assembled.
- Remove any tools from the work area.
- Remove any remaining blocks, braces, jack stands, etc.
- Ensure that all employees have been safely positioned or removed and notified that the lockout/tagout devices are being removed.
- Remove lockout/tagout steering wheel cover or other devices.
- Notify all affected employees that the lockout has been removed.