

# Lockout / Tagout

## Purpose

This safety procedure establishes the minimum requirements that must be followed by city employees to protect themselves from hazardous energy sources while performing service and maintenance on equipment, machines, and systems. It shall be used to ensure that all potentially hazardous energy sources are neutralized and locked out and/or tagged out before servicing and maintenance tasks are performed.

Please note that this program has a [glossary](#). The glossary contains the definitions for various terms used in the program.

## Policy

It is the City of Decatur's policy that before any work or maintenance is performed on any machine, equipment, tool, or electrical system, that they be made totally safe before work starts by removing any source of energy or power to them.

## Scope

This policy covers the protection of city employees from hazardous energy sources while servicing and maintaining equipment, machines, and systems in which the unexpected energization or start-up of the equipment, machine, or systems, or the release of stored energy could cause injury to city employees.

## Compliance

City employees who fail to comply with the requirements of this policy shall be subject to disciplinary action according to Policy #107 (Safety Policy Violations).

## Responsibility

This lockout/tagout procedure applies to all employees authorized to perform servicing and/or maintenance on equipment, machines, and systems; those affected employees operating equipment, machines, or systems on which servicing and maintenance is performed; and other employees whose duties require them to enter work areas where servicing and maintenance is performed. All three (3) groups of employees (authorized, affected, and others) must be appropriately trained concerning the City's Lockout/Tagout policy and procedures.

# Lockout / Tagout

## Type and Magnitude of Energy and Hazards

The forms of potentially hazardous energy sources located throughout City operations include, but are not limited to:

- Electrical energy to power equipment, machines and systems
- Hydraulic energy
- Thermal energy
- Pneumatic energy
- Other energy which is hazardous

**Note:** This procedure does not cover the protection of City employees from electrocution. Electrical safety for employees working on, near, or with electrical hazards above 50 volts is covered under the City's Electrical Work Practices Policy.

Each City department is responsible for listing the specific types and magnitude of potentially hazardous energy within their department. A form which can be used is provided in Appendix A. The types of hazardous energy may be voltage, while pneumatic and hydraulic may be pounds per square inch (psi).

## Training

All City employees authorized to perform servicing and maintenance, those affected employees operating equipment, machines, or systems on which servicing and maintenance is performed, and other employees entering work areas where servicing and maintenance is performed, must understand the purpose and function of the lockout/tagout program.

### Authorized Employees

Authorized employees must receive initial training and special instructions concerning the scope, purpose, authorization, rules and techniques for lockout/tagout of hazardous energy sources including, but not limited to:

1. Recognition of the types of hazardous energy sources;
2. Intended use of the lockout/tagout procedure;
3. Steps for shutting down, neutralizing, isolating, holding and securing;
4. Steps for placement, removal and transfer of lockout/tagout devices and the associated responsibility;
5. Requirements for testing to determine and verify the effectiveness of lockout/tagout devices; and
6. Other appropriate measures necessary to protect employees from hazardous energy.

### Affected Employees

Each affected employee will be instructed in the purpose and use of the lockout/tagout program. Should the affected employee's duties include performing servicing or maintenance, that individual will be trained at the authorized level as stated above.

Safety Policy Number: 401

Effective: *Insert Date*

Revision:

*NEW*

# Lockout / Tagout

## Other Employees

Other employees entering work areas where servicing and maintenance is performed, must be trained concerning the purpose of the lockout/tagout procedure, and how to recognize lockout/tagout jobs so they can avoid hazards to themselves and those performing the job using lockout/tagout. They will also be instructed that attempts to restart the equipment that has been locked out, is prohibited.

## New or Transferred Employees

Each new or transferred employee (authorized, affected and others) shall be instructed in the purpose and use of the lockout/tagout procedure, as it pertains to them, before they begin their initial assignment.

## Employee Retraining

Retraining is required for all authorized and affected employees whenever there is a change in one or more of the following:

- Change in employees job assignment;
- Change in the energy control procedure; or
- Change in machines, equipment or processes that present a new hazard.

Additional retraining will be conducted whenever a periodic inspection identifies deviations or inadequacies in the lockout program. Retraining will also be conducted if a member of management has reason to believe that there are inadequacies in the program or in the employees' knowledge or use of the lockout program. Retraining shall reestablish employee proficiency in the lockout program and introduce new or revised control methods or procedures.

## Annual Lockout/Tagout Procedure Review (Inspections)

Each lockout/tagout procedure must be annually inspected by an authorized employee, other than the one utilizing the energy control procedure. This will be accomplished by the authorized employee observing a lockout/tagout job and recording the following information.

1. Inspector's name (Authorized employee performing inspection)
2. Location
3. Date
4. Lockout/Tagout job (procedure) observed
5. Employees involved
6. Inspection findings
7. Any deviations or inadequacies observed
8. Recommendations
9. Corrective action taken

Refer to Appendix B for a form to use for the lockout/tagout procedure inspection. The department head shall ensure that these annual inspections occur within his or her department. Completed forms shall be forwarded to the Department Director for filing.

Safety Policy Number: 401

Effective: *Insert Date*

Revision:

*NEW*

# Lockout / Tagout

## Records

Each Department will be responsible for maintaining records associated with the program to include but not be limited to:

- Training records;
- Annual Reviews;
- Energy Control Procedures
- Others as may be referenced throughout this policy

## Equipment

Protective materials and hardware such as locks, tags, chains, wedges, or other hardware will be provided by each Department. These devices will be used for the sole purpose of isolating, securing or blocking of equipment from energy sources. Authorized employees will inspect this equipment before each use for defects. Defective equipment will be placed out of service and reported to Supervision.

Department Director's will assign each authorized employee a lockout device. Each department will maintain a list of authorized employees along with their assigned lock. Should the authorized employee transfer to another department in which a lockout device is no longer required, the employee will contact the Department Director to return the device. In the event an authorized employee loses their assigned lock, the key will be returned to the Department Director and a new lock issued.

The following equipment has been selected and approved for use:

**Safety Hasps** - Vinyl-coated high tensile steel with a one-inch (1") jaw diameter will be used for the application of one or more lockout devices.

**Locks** - Personal locks will be heavy-duty American Lock padlocks with a 1½" shackle and red body. All locks will be keyed differently for security. For security purposes, spare keys will be discarded. Employees will not be allowed to purchase their own lockout devices.

Equipment locks will be heavy-duty American Lock padlocks with a 1½" shackle clearance and a gold body. All locks will be keyed differently. For security purposes, spare keys will be discarded.

**I.D. Tags** - Heavy-duty laminated photo identification tags will be used to identify the employee working on the equipment.

**Tagout Tags** - Vinyl industrial-quality tags with a tear proof metal grommet will be utilized in cases where a lockout device can not be applied.

Safety Policy Number: 401

Effective: *Insert Date*

Revision:

*NEW*

# Lockout / Tagout

## General Lockout Sequence

Before working on, repairing, or adjusting machinery, equipment and processes, the following procedures will be utilized to place the machinery, equipment or process in a neutral or zero mechanical state. Specific lockout information for each piece of equipment, machinery, or process is detailed in the Hazardous Energy Control Information section (Appendix C) of this program. These documents are to be referred to before, during and after a lockout operation.

### Sequence

**Preparation for shutdown:** Before an authorized or affected employee turns off a piece of equipment, notification will be given to all other affected employees that a lockout operation is going to be utilized. Using the energy control procedure for the specific machine, equipment or process, the Authorized employee shall identify the type(s) and magnitude of energy utilized, along with the hazards associated with that type of energy and the method or means to control the energy.

**Equipment Shutdown:** If the equipment is operating, shut it down using normal shutdown procedures (depress start/stop button, open toggle switch, etc.). An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of equipment shutdown.

**Equipment Isolation:** Locate and isolate the machine from its energy source(s). This includes turning the disconnect switch to the "off" position, unplugging the machine, disconnecting air supply, or closing a valve.

**Lockout:** Lockout devices will be placed on each energy-isolating device by authorized employees. The lockout device will be affixed in a manner that will hold the energy isolating device(s) in a "safe" or "off" position. Keys from these locks will be placed in a lockout box. The authorized employee(s) will then apply their lock to the lockout box.

**Stored energy:** All potentially hazardous stored or residual energy (i.e. springs, elevated machine member, rotating flywheels, hydraulic lines, air, gas, etc.) must be dissipated, disconnected, restrained, or otherwise rendered safe (i.e. repositioning, blocking, bleeding, etc.). If re-accumulation of stored energy to a hazardous level is possible verification of isolation will be continued until servicing or maintenance is completed, or until the possibility of accumulation no longer exists.

**Verification of lockout:** After ensuring no personnel is exposed, the equipment must be tested to verify isolation and de-energization has been completed. This is accomplished by activating the start/stop controls.

**Caution:**

**Return operating control(s) to "neutral" or "off" position after testing.**

**Locked out:** Equipment is now locked out and servicing or maintenance may begin.

**Note:** If the machine, equipment or process cannot accept a lock, a tag will be placed in a location so that anyone desiring to operate the machine, equipment or process will see it, and not attempt to operate it.

# Lockout / Tagout

## Restoring to Normal Operations

Before lockout devices are removed and the energy restored to the machine or equipment, the following actions will be taken.

### Sequence

**Equipment:** The work area will be inspected to ensure that all nonessential items have been removed and that all safety guards have been reinstalled and are functioning properly.

**Employees:** Work area will be checked to ensure all employees have been safely positioned or removed. After lockout devices have been removed and before the equipment is started, affected employees will be notified that the lockout device(s) have been removed.

**Removal of lockout device(s):** Remove all lockout devices from all energy isolating devices. For further specifics on removal of lockout devices, consult the "Removal" section of this program.

**Activating equipment:** Activate the energy isolating device(s) to restore energy to the equipment. Monitor machine to ensure it is operating correctly.

## Electrical Plug-type Equipment Lockout Procedure

This procedure covers all electrical plug-type equipment such as battery chargers, some product pumps, office equipment, powered hand tools, powered bench tools, lathes, fans, etc.

When working on, repairing, or adjusting the above equipment, the following procedures must be utilized to prevent accidental or sudden startup.

1. Unplug electrical equipment from wall socket or in-line socket.
2. Attach plug box and lock to end of power cord.

**Note:** *An exception is granted to not locking a plug provided that the plug remains in the exclusive control of the employee working on, adjusting or inspecting the equipment.*

3. Test equipment to assure power source has been removed by depressing the "Start" or "On" switch.
4. Perform required operations.
5. Replace all guards removed.
6. Remove lock and plug box.
7. Inspect power cord and socket before plugging equipment into power source. Any defects must be repaired before placing the equipment back in service.

Safety Policy Number: 401

Effective: *Insert Date*

Revision:

*NEW*

# Lockout / Tagout

## Removal of Lockout Device

Only the employee that locks out machinery, equipment or processes may remove their lock. If the employee who applied the lockout device is not available to remove it, the device may be removed under the direction of management provided the following procedures are carried out and documented on the **Special Lockout Removal** Form found in Appendix D.

- Management shall demonstrate that the specific procedure provides equivalent safety to the removal of the device by the authorized employee who applied it.
- Management will verify that the authorized employee who applied the lockout device is not available.
- Management will make all reasonable efforts to contact the authorized employee to inform them that their lockout device has been removed.

After the lock is removed it will be given to the Department Director. It will be the responsibility of the Department Director to meet with the employee prior to the start of the next shift and advise them that their lock was removed and return the lock that was removed or issue a new lock.

## Testing/Positioning Machines, Equipment, or Components

In some cases, it may be necessary for authorized employees to briefly remove their lockout/tagout devices for testing or positioning machines, equipment or components. Before removing the lockout/tagout devices, the authorized employee clears the machine/equipment and removes potentially exposed employees. Once the machine/equipment is clear, remove the lockout/tagout devices only for a time required to perform the controlled testing or positioning ensuring that no one is, nor will be, exposed to injury. Energize the machine/equipment and proceed with the testing/positioning. Immediately following the testing/positioning, de-energize the machine/equipment and reapply the lockout/tagout device(s).

## Group Lockouts

When a crew, department or other group performs servicing or maintenance, one authorized employee will be designated as group leader for a set number of employees working under the protection of a group lockout. Prior to the work beginning, the group leader will review the hazardous energy control procedures with the group. The group leader will apply a single lock to each energy source. The keys from each lock will then be placed in a lock box. Other group members will apply their lock to the box. As each group member no longer needs to maintain their lockout protection, they will remove their lock from the box. The group leader will be the last person to remove their lock from the box along with the locks from each energy source.

## Contractors

At times, outside contractors may be engaged in activities that require machines, equipment or processes to be locked out. In this situation, the contractor will be required to submit their written lockout program to the City. The contractor's program shall meet or exceed the guidelines established by the City of Decatur's lockout program. Should the contractor not have a written program, this program will be applied.

Safety Policy Number: 401

Effective: *Insert Date*

Revision:

*NEW*

# Lockout / Tagout

## DEFINITIONS

**Affected employee** - An employee whose job requires them to operate or use equipment on which servicing or maintenance is being performed during a lockout procedure, or whose job requires them to work in an area in which such servicing or maintenance is being performed.

**Authorized employee** - An employee who locks out equipment in order to perform service or maintenance to that equipment. An affected employee may become an authorized employee when their duties require them 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.

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

**Energy control 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. Push buttons, selector switches, and other control circuit type devices are not energy isolating devices.

**Energy source** - Is any source of power electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other form of energy.

**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 utilized a positive means such as a lock, either key or combination type, to hold an energy isolating device in a safe position and prevent the energizing of the equipment.

**Servicing/maintenance** - Work place activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing equipment. These activities include lubrication, cleaning or unjamming equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or start-up of the equipment or release of hazardous energy.

**Setting up** - Any work performed to prepare a piece of 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.

### Reference:

