

LOCKOUT POLICY

1.0 Purpose:

- 1.1 This program establishes procedures for de-energizing, isolating, and ensuring the energy isolation of equipment and machinery. The program will be used to ensure that equipment and machinery is de-energized and isolated from unexpected start-up by physically locking machinery in a state of zero energy. In the absence of locking capabilities, tag out the device to warn against energizing and take at least one additional precaution, such as removing the fuse.

These procedures will provide the means of achieving the purpose of this program, preventing injury to City employees from unexpected energizing or starting-up of equipment and machinery, or from releasing stored energy.

2.0 Application:

- 2.1 This program applies to the control of energy during the servicing and/or maintenance of equipment and machinery at The City of Lake Forest.

Normal operations are covered by this program if a guard or other safety device is removed or bypassed, or any part of the body is placed into an area of the equipment or machinery where work is performed on the material, or a danger zone exists during the operating cycle. Minor tool changes, adjustments, and other minor servicing activities which take place during normal production operations do not require isolation and lockout/tagout if they are routine and integral to the use of the equipment, and the operator has direct control over all energy sources to the equipment. (Note: Once the operator leaves the area, direct control of the equipment has been lost and lockout/tagout is required.) Other exclusions include, but are not limited to the following:

- Work on cord and plug connected electric equipment when it is unplugged, and the employee working on the equipment has complete control over the plug.
- Hot tap operations involving gas, steam, water or petroleum products when the employer shows that continuity of service is essential, shutdown is impractical and documented procedures are followed to provide proven effective protection for employees.

3.0 Scope:

- 2.1 This program will include all City employees whose duties require them to service, install, repair, adjust, lubricate, inspect, or perform work on powered equipment or machinery which may also have the potential for stored energy.
- 2.2 The department head shall ensure that a written lockout program and procedures exists at each City building and that they are (1) in effect, (2) that both the program and the procedures are being adhered to, and (3) that they are enforced.

4.0 **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, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee: A person who locks or implements a tagout system procedure on machines or equipment to perform servicing or maintenance. An authorized employee and an affected employee may be the same person when the affected employee's duties also include performing maintenance or service on a machine or equipment which must be locked or tagged out.

"Capable of being locked out": An energy isolating device will be considered to be capable of being locked out either if it is designed with 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 also be considered to be 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.

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

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 slide gate; a slip blind; a line valve; a block; and any similar device used to block or isolate energy. The term does not include a push button, selector switch, and other control circuit type devices.

Energy source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other 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 utilizes positive means such as a lock, either key or combination type, to hold an energy isolating device in the safety position and prevent the energizing of a machine or equipment.

Normal production operations: The utilization of a machine or equipment to perform its intended production function.

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

Setting up: Any work performed to prepare a machine or equipment to perform its normal production operation.

Stored energy: Energy that is available and may cause movement even after energy sources have been isolated. Stored energy may be in the form of compressed springs, elevated equipment components, hydraulic oil pressure, pressurized water, air, steam, or gas, or rotating flywheels, shafts, or cams.

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 opened until the tagout device is removed.

5.0 Program Responsibilities:

5.1 The Directors will have overall responsibility of the program to ensure that: authorized and affected employees receive adequate training and information; the program is evaluated annually; the lockout/tagout equipment is properly used; and the procedures of this program are followed. All supervisors will have the responsibility to insure that their respective sections are complying with this program. They will insure that training, implementation, annual audits, and program evaluations are performed and the results are kept on file with the department recordkeeper.

The program evaluation will be conducted to ensure that the procedures and requirements of the program are being followed and will be utilized to correct any deviations or inadequacies that may be discovered. The evaluation will consist of one or more inspections or audits of actual lockout/tagout procedures being used to isolate equipment. A review of the authorized and affected employees' responsibilities will be conducted at the time of the inspection/audit. The inspection/audit may be performed by any authorized employee, except the one(s) utilizing the energy isolation procedure being inspected. A record will be maintained of program evaluation inspections and will include, at minimum:

- The identify of the equipment or machine on which energy control procedures were being utilized;
- The date(s) of the inspection(s);
- The employee(s) included in the inspection(s); and
- The person performing the inspection.

Authorized employees (persons who implement lockout/tagout procedures) will be responsible for following the procedures established by this program.

Affected employees are responsible for understanding the significance of a lockout/tagout device and the prohibition relating to attempts to restart or re-energize equipment or machinery that is locked out or tagged out.

- 5.2 **Training:** Employees will be provided instruction in the purpose and function of the energy control program to ensure that they understand the significance of locked or tagged out equipment and also have the knowledge and skill to correctly apply and remove energy controls. Training will be divided into two categories: “Affected Employees” and “Authorized employees.”

Affected Employees:

1. Affected employees will be made aware of the purpose and use of energy control procedures and the prohibition relating to attempts to remove lockout or tagout devices, or operate locked out or tagged out equipment.
2. Initial training will be provided to all new employees during their introductory period or when reassigned to a job that requires lockout/tagout training.
3. Retraining will be conducted whenever there is a change in equipment that presents a new hazard, a change in the energy control procedures or when the program evaluation identifies inadequacies in the energy control program procedures.

Authorized Employees:

1. Authorized employees will be made aware of the purpose, the recognition of applicable hazardous energy source(s), the type and magnitude of energy available, and the policies and procedures of the energy control program.
2. Instruction in the limitations of tagout as a sole means of energy control.
 - a. Tags are warning devices and do not provide the physical restraint that a lock would.
 - b. Tags may provide a false sense of security.
 - c. Tags may become detached during use. Initial training will be provided during energy control program implementation.
3. A representative from each section will be designated and will receive initial training by their supervisor. The designated representatives will be provided with materials to provide initial training to their respective sections, and provide training when new employees are hired. Training will be provided to employees who change status from an affected employee to an authorized employee.
4. Retraining will be conducted whenever there is a change in job assignments that requires the employee to utilize energy control procedures, a change in equipment that presents a new hazard, a change in the energy control procedures or when the program evaluation identifies inadequacies in the energy control program procedures.
5. Initial training of a new employee will be conducted during the first ten days of employment and must be completed prior to an employee being allowed to work independently without direct and continuous supervision.

Training Records: Records of employee training will be maintained and will include the employee’s name and date(s) of training. Each section will maintain a copy of the training records for three years and forward a copy of the training records to the department recordkeeper.

5.3 **Standard Operating Procedures:**

General: The City will provide the necessary devices to effectively lockout or tagout energy isolating devices. Lockout/tagout devices will be the only devices used for controlling energy and shall not be used for other purposes. Any devices used for lockout/tagout will be capable of

withstanding the environment to which they are exposed for the maximum period they are expected to be exposed. The devices will be substantial enough to prevent removal without excessive force. Excessive force for a locking device would be bolt cutters or other metal cutting tools. Tagout devices will be attached by a non-reusable method, attachable by hand, and very difficult to remove by hand. A nylon cable tie or equivalent will be used.

Lockout/tagout devices will indicate the identity of the employee who applied the device, the date applied, and the tagout device will warn against the hazards if the equipment is energized.

Lockout is the preferred method of energy isolation. When physical lockout is not possible, the energy isolation device will be tagged out of service with a warning tag attached at the power source. In the case of plug-in power source, the tag will be attached at the Plug. To ensure full employee protection using tagout instead of lockout, additional steps should be taken to guard against accidental or inadvertent energizing. These steps may include, where applicable: removal of fuses, blocking of switches, and removal of a valve handle.

Each department which has equipment requiring lockout/tagout requirements shall complete an inventory and forward a copy to the department recordkeeper.

Application of Controls:

A. Preparing to Shut Down Equipment

1. Prior to equipment shutdown, the authorized employee(s) must have knowledge of:
 - a. The type(s) and magnitude of power.
 - b. The hazards of the energy to be controlled.
 - c. The method(s) to control the energy.
 - d. The location and identity of all isolating devices that control or feed the equipment to be locked/tagged out.
2. Notify all affected employees that the lockout/tagout system will be in effect. When shutting down equipment which will affect other personnel, insure that these personnel or areas are notified and signs or warnings are posted as necessary.
3. Assemble applicable lockout/tagout devices – padlocks, tags, multiple lock hasps, etc.

B. Equipment Shutdown and Isolation

1. If equipment is in operation, shut it down by the normal stopping procedure (stop button, switch).
2. Operate disconnects, switches, valves, or other energy isolating devices so that the equipment is de-energized and isolated from its energy source(s).
3. Verify that equipment is shut down by operating equipment from the normal operating location and any remote locations.

C. Installation of Lockout/Tagout Device, Release of Stored Energy, and Verification

1. Attach individually assigned lock(s) or tag(s) to energy isolating device(s). Where it is not possible to lock a switch, valve, or other isolating device, electrical fuses must be removed, blank flanges installed in piping, lines disconnected, or other suitable methods used to ensure that equipment is isolated from energy sources. A tag must be installed at the point of power interruption to warn against energizing.

- a. Each lock or tag must positively identify the person who applied it and locks must be individually keyed.
- b. If more than one person is involved in the task, each employee will place their own lock and tag. Multiple lock hasps are available for this.
1. Release, restrain, or dissipate stored energy such as spring tension, elevated machine members, rotating flywheels, hydraulic pressure, pistons and air, gas, steam, water pressure, etc. by repositioning, blocking, bleeding, or other suitable means.
2. Prior to starting work on equipment and after ensuring that no personnel are exposed, the authorized employee will verify that isolation and de-energizing have been accomplished by:
 - a. Attempting, through normal effort, to operate energy isolating devices such as switches, valves, or circuit breakers with locks or tags installed.
 - b. Attempting to operate the equipment or machinery that is locked or tagged out. This includes all sources of energy – electrical, hydraulic, gravity, air, water, steam pressure, etc.
 - c. Verifying the presence and effectiveness of restraints (blocking) and energy dissipation or release (bleeding).
3. If there is a possibility of the 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.

D. Group Lockout/Tagout

1. When more than one individual is involved in locking or tagging equipment out of operation, each individual will attach their individual lock or tag, or the equivalent, to the energy isolating device(s).
 - a. An equivalent lockout device may be in the form of a group lockout device such as a multiple lock hasp or lock box.
 - b. Primary responsibility for a group of authorized employees working under a group lockout device will be vested in a designated authorized employee.
 - c. Group lockout methods will provide a level of protection equal to that afforded by a personal lockout/tagout device.

Returning Equipment to Service

A. Restore Equipment to Normal Operating Status

1. Re-install all parts or subassemblies removed for servicing or maintenance.
2. Re-install all tools, rests, or other operating devices.
3. Re-install all guards and protective devices (i.e., limit switches).
4. Remove all blocks, wedges, or other restraints from the operating area of the equipment.
5. Remove all tools, equipment, and shop towels from the operating area of the equipment.

B. Verify Equipment Ready for Operation

1. Inspect area for non-essential items.

2. Ensure that all employees are safely positioned clear of the operating areas of the equipment. Post a watch if energy isolation devices are not in line of sight of the equipment.
- C. Notify Affected Employees of Impending Start-up
1. The sudden noise of start-up may startle nearby employees.
 2. Equipment may need to be tested to determine operational safety by a qualified operator.
- D. Remove Energy Isolation Devices (Only by authorized employee(s) who installed it/them.)
1. Remove line blanks, reconnect piping (if applicable), and remove warning tag.
 2. Close bleeder valves, remove warning tag.
 3. Replace fuse(s), close circuit breaker(s), and remove warning tag.
 4. Remove lock and tag from control panel, valve, etc.
 5. Exception to removal of lockout/tagout devices by employee who installed it.

If it is necessary to operate a piece of equipment which is locked/tagged out, every effort must be made to locate the employee whose lock or tag is on the equipment. If he or she cannot be located and only after positive assurance is made that no one is working on the locked out equipment, the supervisor, with the express permission of the department head, may personally remove the lock.

If a lock is removed during the absence of the employee who installed it, positive stops must be put in place. The stop/s must ensure that the employee will meet with supervisor for an explanation of what has transpired in his/her absence. One method would be to remove the employee's time card and replace it with a Form note (this can be included in training) to see the supervisor prior to returning to work.

Employees will recheck locked out equipment if they have left the equipment (breaks, lunch, and end of shift) to make sure it is still de-energized and locked out.

Temporary Removal of Lockout/Tagout Protection

- A. In situations where the equipment must be temporarily energized to test or position the equipment or its components, the following steps will be followed:
1. Clear the equipment of tools and materials that are non-essential to the operation.
 2. Ensure the equipment components are operationally intact.
 3. Remove employees from the equipment area.
 4. Remove the lockout/tagout devices by the employee who installed it/them.
 5. Energize and proceed with testing or positioning.
 6. De-energize all systems and re-install all energy control measures.
 7. Verify re-installed energy control measures are effective.

Shift or Personnel Changes

- A. The following steps will be followed to ensure continuity of employee protection during personnel changes.
1. All personnel involved in the maintenance or servicing activity will be notified that a transfer of personal locks/tags is about to occur.

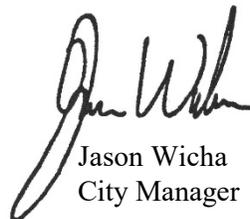
2. Clear all personnel from hazardous area(s) of equipment.
3. Under the supervision of the shift supervisor or group designee, the off-going employee will remove his/her lock and tag and the on-going employee will immediately install his/her lock and tag.
 - a. *When applicable:* If an entire group or more than one employee will be transferring work responsibility, locks/tags will be removed and replaced one at a time in order of installation. All employees must be present during this exchange.
 - b. *When applicable:* When the transfer of lockout/tagout devices is complete, the effectiveness of all energy isolation devices will be verified to the satisfaction of all personnel involved.
 - c. Once the effectiveness of energy isolation protection is confirmed, the service/maintenance operation may continue.

Contractor Notification

- A. Whenever outside personnel may be engaged in activities covered by this program, the section administering the contract will inform the contractor of applicable lockout/tagout procedures used to protect The City of Lake Forest employees from the hazards of working near energized equipment.
 1. The contractor will be expected to ensure that his/her employees understand and comply with the restrictions and prohibitions of this program.
 2. The contractor will be required to inform us of their lockout/tagout procedures so that The City of Lake Forest employees can comply with the restrictions and prohibitions of the contractor's program.
 3. The contractor will be required to notify the section supervisor, and affected employees prior to de-energizing, isolating, and locking out equipment. Conversely, notification is also required when this equipment will be returned to service.

6.0 Distribution:

Employee Information website www.citylf.org.



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