## Lockout/Tagout

1. **Purpose**

To protect personnel from unexpected energization of equipment or the release of stored energy during maintenance or service. Failure to comply with proper Lockout/Tagout procedures is grounds for disciplinary action.

1. **Responsibility**

The Facility Supervisor shall:

* Ensure equipment specific Lockout/Tagout procedures are documented.
* Ensure only Authorized Persons perform Lockout/Tagout.
* Furnish all locks, tags, and hardware (except as provided by contractor).
* Verify that Authorized Employees ensure equipment and machinery are isolated and de-energized prior to commencement of work.
* Verify that contractor has instructed contractor Authorized Persons and Affected Persons on this procedure and that all other contract personnel have been briefed on this procedure or a compatible generic procedure.

Authorized Person shall:

* Employees or contractors who have been designated and trained to recognize, isolate, and control hazardous energy sources.
* Ensure the Lockout/Tagout is effective.
* Notify all affected employees upon application or removal of Lockout/Tagout. Notification shall be before application and before removal.

Affected Persons shall:

* Employees or contractors who are directly involved in the work that have been trained in the purpose and use of Lockout/Tagout procedures.
* Respect locks and tags.

The Safety Department shall:

* Audit the program effectiveness.
* Support field operations in developing equipment specific energy isolation procedures.

1. **Energy Sources**

Effective Lockout/Tagout procedures require that equipment be isolated from energy sources. Energy takes two basic forms.

Kinetic Energy

* Energy associated with motion that is usually easily observable.
* Seldom associated with Lockout/Tagout accidents.

Potential Energy

* Stored Energy which is often difficult to observe.
* Can include any source of electricity, gravity, compressed gas, pressurized liquid, magnetism, springs, reactive chemicals, and heat/cold, mechanical, hydraulic, pneumatic or other energy.

1. **Lockout/Tagout Equipment**

* If an energy source can be locked out, this method will be utilized. A Lockout Device utilizes a lock, either key or combination, to hold an energy isolating device in a safe position.
* If an energy source cannot be locked out, a tagout system will be utilized. A Tagout Device is a warning tag (weather and chemical resistant) standardized in size, color, with wording warning of hazardous energy such as: (Do Not Start) (Do Not Open) (Do Not Close) (Do Not Energize) (Do Not Operate).
* If only a tagout is used, the reason why the energy-isolated device cannot be modified to accept a lockout must be documented. In addition, a risk assessment must be conducted documenting the procedure to adequately control the risk.
* Lockout or tagout will be performed only by the authorized employees who are performing the servicing or maintenance.
* Lockout/Tagout devices will be clearly marked to indicate the identity of the employee applying the device.
* Any unauthorized removal of warning tags or lockout devices will be grounds for immediate termination of employment.

1. **Lockout/Tagout Steps**

**Preparation for Shutdown**

Before an authorized or affected employee turns off a machine or equipment, the authorized employee will 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 will be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown will be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

**Machine or Equipment Isolation**

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

**Lockout or Tagout Device Application**

* Lockout or tagout devices will be affixed to each energy isolating device by authorized employees.
* Lockout devices, where used, will be affixed in a manner to that will hold the energy isolating devices in a "safe" or "off" position.
* Tagout devices, where used, will be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.
* Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment will be fastened at the same point at which the lock would have been attached.
* 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.

**Stored Energy**

* Following the application of logout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy will be relieved, disconnected, restrained, and otherwise rendered safe.
* If there is a possibility of reaccumulation 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.

**Verification of Isolation**

* Prior to starting work on machines or equipment that have been locked out or tagged out; the authorized employee will verify that isolation and deenergization of the machine or equipment have been accomplished.
* Before lockout or 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:
* The work area will be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.
* The work area will be checked to ensure that all employees have been safely positioned or removed.
* After lockout or tagout devices have been removed and before a machine or equipment is started, affected employees will be notified that the lockout or tagout device(s) have been removed.

1. **Temporary Removal of LOTO Devices**

In situations where lockout or tagout devices must be temporarily removed and the machine or equipment energized to test or position, the following procedures will be followed:

* Clear the machine or equipment of tools and materials.
* Remove employees from the machine or equipment area.
* Remove the lockout or tagout devices as specified.
* Energize and proceed with testing or positioning.
* Deenergize all systems and reapply energy control measures to continue the servicing and/or maintenance.
* This procedure will be documented and performed by the authorized personnel.

1. **Multi Group Workers**

When servicing and/or maintenance is performed by a crew, craft, department, or other group, they will utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. Group lockout or tagout devices will be used with the following specific requirements:

* Primary responsibility is vested in the authorized employeefor a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock).
* The authorized employee will ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment.
* Each authorized employee will affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and will remove those devices when he or she stops working on the machine or equipment being serviced or maintained.
* When more than one crew, craft, department, etc. is involved, the authorized employee is assigned responsibility to coordinate affected work forces and ensure continuity of protection.

1. **Shift or Personnel Changes**

Safe Work Permit procedures will be followed to ensure continuity of the Lockout/Tagout procedure. Documentation will be maintained as to personnel, equipment, and particular Lockout/Tagout procedures involved in a specific ongoing operation.

* If an Authorized Person is relieved by another Authorized Person for any reason, the oncoming person shall attach their lock before commencing work. The outgoing person shall not remove their lock until the replacement lock is attached.
* Authorized Persons will thoroughly brief their relief on status of Lockout/Tagout work.
* Where an Authorized Person does not have replacement relief on shift change, the

Authorized Person will be contacted prior to removing a lock or tag placed on an isolation device to control an energy source.

1. **Emergency Removal and Abandoned Locks**

An emergency lock removal should only be used if the LOTO Authorized Employee who applied the LOTO device is not available to remove it. The device may be removed by the Lockout Authorized Employee’s supervisor if it is safe to do so, and only after the following emergency removal procedure has been implemented.

* The supervisor must verify that the LOTO Authorized Employee is not available to remove the LOTO device.
* The supervisor must make every reasonable effort to contact the LOTO Authorized Employee. This may include a telephone call to the employee's home or other location.
* These efforts must be documented (email, registered letter, voicemail, telephone verbal assurance to the supervisor and one other person, etc.).
* If the employee is contacted, the supervisor must inform the employee that his or her LOTO devices are being removed.
* The supervisor must verify that it is safe to remove the LOTO devices.
* The supervisor may then cut off the lock or have it cut off by the Operations Department.
* Before the worker returns to any work duty, the supervisor must ensure that the LOTO-Authorized Employee is presented with the removed lock upon returning to work and is informed of the reasons for the emergency removal.
* The emergency procedure must be duly recorded in the department's records and signed by both the Supervisor and LOTO-Authorized Employee.
* For record keeping purposes, complete the Emergency Lock Removal form.

If the LOTO-Authorized Employee's immediate supervisor is not available, the emergency removal may be performed by one level of management above the LOTO-Authorized Employee's supervisor, or by a delegated individual with documented authorization by the supervisor to perform this function, using the above steps.

1. **Periodic Inspection**

A documented, annual inspection shall be performed by the HSE Department on energy control procedures for the purpose of:

* Identifying and correcting program deficiencies.
* Reviewing responsibilities directly with Authorized Persons and Affected Persons.
* Discussing limitations of tagout procedures with Affected Employees.
* Documenting and certifying that the inspection was performed by recording the equipment description, names of employees and inspector, and date.

1. **Training**

Training will be provided to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. The training will include the following:

* 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.
* When tagout systems are used including the limitation of a tag. Tags are warning devices and do not provide physical restraint. A tag is never to be ignored or defeated in any way.
* Each authorized employee will be instructed in the purpose and use of the energy control procedure.
* All other employees whose work operations are or may be in an area where energy control procedures may be utilized, will be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

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.

Additional retraining will 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 the energy control procedures.

Employee training and/or retraining will be certified and kept up to date. The documentation will contain each employee's name, dates of training, and who conducted the training.

**Emergency Lock Removal Form**

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| --- | --- |
| Date: | LOTO Authorized Employee Name: |
| Location of Lock: | |
| Reason for Emergency Removal: | |
| LOTO Authorized Employee Absence Verified? Yes or No | Contact Attempted? Yes or No |
| Supervisor Signature Authorizing Lock Removal: |  |
| Signature of Person Removing Lock: |  |
| Notification Provided Before LOTO Authorized Employee’s Return to Work? Yes or No | Date of Notice: |
| I verify I received a copy of the emergency lock removal notice for the removal of my lock. | |
| LOTO Authorized Employee Signature: |  |
| Date: |  |