LOCKOUT/TAGOUT

PART 3: RULEBOOK

1. General Requirements

1.1 Minimum performance requirements must be met for the control of machines and equipment whenever the unexpected energization or startup of the machines or equipment, or release of stored energy could cause injury to employees. (29 CFR 1910.147(a))

Guide Note

- Determine if employers have established a program and utilized procedures for attaching appropriate lockout or tagout devices to energy-isolating devices, and to otherwise disabled machines or equipment to prevent unexpected energization, startup, or release of stored energy in order to prevent injury to employees.

1.2 The employer must establish a program consisting of energy-control procedures, employee training, and periodic inspections. (29 CFR 1910.147(c))

Guide Note

- Determine if the employer has established a program consisting of energy-control procedures, employee training, and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup, or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source, and rendered inoperative.

1.3 If an energy-isolating device is not capable of being locked out, certain requirements must be met. (29 CFR 1910.147(c)(2))

Guide Note

- Review procedures to ensure the practices below are followed:
  - If an energy-isolating device is not capable of being locked out, the employer's energy control program must utilize a tagout system.
  - If an energy-isolating device is not capable of being locked out, the employer's energy control program must utilize lockout, unless the employer can demonstrate that the utilization of a tagout system will provide full employee protection.
  - After January 2, 1990, whenever major replacement or major repair, renovation, or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machines or equipment must be designed to accept a lockout device.

1.4 When a tagout device is used on an energy-isolating device that is not capable of being locked out, the tagout device shall be attached at the same location the lockout device would have been attached. (29 CFR 1910.147(c)(3)(i))

Guide Note

- Review procedures to verify that a tagout device is attached in the same location as a lockout device would have been.

1.5 The level of safety achieved in the tagout program must be equivalent to the level of safety obtained by using a lockout program. (29 CFR 1910.147(c)(3)(ii))

Guide Note

- Determine if the employer has demonstrated that the level of safety achieved in the tagout program is equivalent to the level of safety obtained by using a lockout program. Additional means to be considered as part of the demonstration of full employee protection must include the following:
  - implementation of additional safety measures such as the removal of an isolating circuit element;
  - blocking of a controlling switch;
  - opening of an extra disconnecting device; or
  - the removal of a valve handle to reduce the likelihood of inadvertent energization.

1.6 Procedures must be developed, documented, and utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by this section. (29 CFR 1910147(c)(4))

Guide Note

- Determine if the procedures clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy and the means to enforce compliance, including, but not limited to, the following:
  - a specific statement of the intended use of the procedure;
  - the specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy;
  - the specific procedural steps for the placement, removal, and transfer of lockout or tagout devices, and the responsibility for them; and
  - the specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

1.7 The protective materials and hardware must be provided according to certain requirements. (29 CFR 1910.147(c)(5))

Guide Note

- Review procedures to ensure that the employer meets the following requirements:
  - locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware are provided by the employer for isolating, securing, or blocking of machines or equipment from energy sources; and
  - lockout devices and tagout devices are singularly identified as the only devices(s) used for controlling energy and are not to be used for any other purpose.

1.8 Lockout/tagout devices must be durable and meet certain requirements. (29 CFR 1910.247(c)(5))

Guide Note

- Verify that lockout and tagout devices are capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
- Verify that tagout devices are 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.
- Verify that tags will not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.
- Verify that lockout and tagout devices are standardized within the facility in at least one of the following criteria: color; shape; or size; and additionally, in the case of tagout devices, print and format shall be standardized.
- Verify that lockout devices are substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools;
- Verify that tagout devices, including their means of attachment, are substantial enough to prevent inadvertent or accidental removal.
- Verify that tagout device attachment means are of a nonreusable type, attachable by hand, self-locking, and nonreleasable with a minimum unlocking strength of no less than 50 lb and having the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.
- Verify that lockout devices and tagout devices indicate the identity of the employee applying the device(s).
- Verify that tagout devices warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: "Do Not Start," "Do Not Open," "Do Not Close," "Do Not Energize," "Do Not Operate."

1.9 The employer must conduct periodic inspections of the energy control procedure to ensure that requirements are being followed. (29 CFR 1910.147(c)(6))

Guide Note

- Review inspection procedures and records to ensure requirements are met:
  - Periodic inspections are performed by an authorized employee other than the one(s) utilizing the energy control procedure being inspected.
  - Periodic inspections are conducted to correct any deviations or inadequacies that have been identified.
  - Where lockout is used for energy control, periodic inspections include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.
  - Where tagout is used for energy control, periodic inspections include a review, between the inspector and each authorized and affected employee, of that employee's responsibilities under the energy control procedure being inspected.
  - The employer must certify that periodic inspections have been performed.
  - Certification identifies:

    1) the machine or equipment on which the energy control procedure was being utilized;
    2) the date of the inspection;
    3) the employees included in the inspection; and
    4) the person performing the inspection.

1.10 The employer must provide training to ensure that the purpose and function of the energy control program is understood by employees, and that the knowledge and skills required for the safe application, usage, and removal of energy controls are acquired by employees. (29 CFR 1910.147(c)(7))

Guide Note

- Determine whether each authorized employee has received 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.
- Determine whether each affected employee is instructed in the purpose and use of the energy-control procedure.
- Determine whether all other employees whose work operations are or may be in an area where energy-control procedures may be utilized, are instructed about the procedure and about the prohibition relating to attempts to restart or re-energize machines or equipment that are locked out or tagged out.
- When tagout systems are used, determine whether employees are also trained in the following limitations of tags:
  - Tags are essentially warning devices attached to energy-isolating devices, and do not provide the physical restraint on those devices that is provided by a lock.
  - When a tag is attached to an energy-isolating means, it is not removed without authorization of the authorized person responsible for it, and it is never bypassed, ignored, or otherwise defeated.
  - In order to be effective, tags are legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area.
  - Tags and their means of attachment are made of materials that will withstand the environmental conditions encountered in the workplace.
  - Tags do not evoke a false sense of security, and their meaning is understood as part of the overall energy control program.
  - Tags are securely attached to energy-isolating devices, so that they cannot be inadvertently or accidentally detached during use.

1.11 Retraining must 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. (29 CFR 1910.147(c)(7)(iii))

Guide Note

- Review training materials and records to ensure that additional retraining is conducted as required:
  - whenever a periodic inspection reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in the employee's knowledge or use of the energy-control procedures;
  - to re-establish employee proficiency, and introduce new or revised control methods and procedures as necessary; and
  - employer records are certified to show that employee training has been accomplished and is kept up to date. Certification records must contain each employee's name and dates of training.

1.12 Lockout or tagout must be performed only by the authorized employees who are performing the servicing or maintenance. (29 CFR 1910147(c)(8))

Guide Note

- Review procedures to ensure only authorized, trained individuals are allowed to perform lockout/tagout.

1.13 Affected employees must be notified by the employer or authorized employee of the application and removal of lockout devices or tagout devices. (29 CFR 1910.147(c)(9)

Guide Note

- Review procedures to verify that all affected employees are notified regarding lockout/tagout devices and determine if notification is given before the controls are applied, and after they are removed from the machine or equipment.

1.14 Whenever lockout or tagout devices must be temporarily removed from the energy-isolating device, and the machine or equipment is energized to test or position the machine, equipment, or component thereof, certain requirements must be met. (29 CFR 1910.147(f)(1))

Guide Note

- Review procedures to verify that sequential steps are taken as follows:
  - the machine or equipment is cleared of tools and materials;
  - the machine or equipment is in the safety position, or employees are removed from the machine or equipment area;
  - the lockout or tagout devices are removed;
  - the machine or equipment is energized, and employees proceed with testing or positioning; and
  - employees de-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

1.15 When outside personnel are engaged in lockout/tagout procedures, certain requirements must be met. (29 CFR 1910.147(f)(2))

Guide Note

- Verify that the onsite employer and the offsite employer informs each other of their respective lockout or tagout procedures.
- Verify that the onsite employer ensures that his/her employees understand and comply with the restrictions and prohibitions of the offsite employer's energy control program.

1.16 When lockout/tagout procedures are performed by a group, certain requirements must be met. (29 CFR 1910.147(f)(3))

Guide Note

- Review policy to verify that when servicing and/or maintenance is performed by a crew, craft, department or other group, they utilize a procedure that affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.
- Determine if group lockout or tagout devices are used in accordance with the procedures required by 29 CFR 1910.147(c)(4) (Section 1.6) including, but not necessarily limited to, the following specific requirements:
  - Primary responsibility is vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock).
  - Provision is made for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment.
  - When more than one crew, craft, department, etc., is involved, assignment of overall job-associated lockout or tagout control responsibility is given to an authorized employee designated to coordinate affected work forces and ensure continuity of protection.

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- Each authorized employee shall attach a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

1.17 During shift or personnel changes, certain requirements must be met to ensure the continuity of lockout or tagout protection. (29 CFR 1910.147(f)(4))

Guide Note

- Review procedures to verify that they address continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees, to minimize exposure to hazards from the unexpected energization, or startup of the machine or equipment, or release of stored energy.

2. Application of Control

2.1 Procedures for the shutdown of machines or equipment must meet certain requirements. (29 CFR 1910.147(d)

Guide Note

- Before an authorized or affected employee turns off a machine or any equipment, verify that the authorized employee has 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.
- Verify that the machine or equipment is turned off or shut down using the procedures established for that machine or equipment.
- Verify that an orderly shutdown is utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.
- Verify that all energy-isolating devices that are needed to control the energy to the machine or equipment are physically located and operated in such a manner that they isolate the machine or equipment from the energy source(s).

2.2 Procedures for the application of lockout/tagout devices must meet certain requirements. (29 CFR 1910.147(d).

Guide Note

- Verify that lockout or tagout devices are attached to each energy-isolating device by authorized employees.
- Verify that lockout devices, where used, are attached so that they will hold the energy-isolating devices in a "safe" or "off" position.
- Verify that tagout devices, where used, are attached 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, verify that the tag attachment is fastened at the same point at which the lock would have been attached.
- Where a tag cannot be attached directly to the energy-isolating device, verify that the tag is located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.
- Following the application of lockout or tagout devices to energy-isolating devices, verify that all potentially hazardous stored or residual energy is relieved, disconnected, restrained, and otherwise rendered safe.
- If there is a possibility of reaccumulation of stored energy to a hazardous level, determine if verification of isolation is continued until the servicing or maintenance is completed, or until the possibility of such accumulation no longer exists.

2.3 Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee must verify that isolation and de-energization of the machine or equipment has been accomplished. (29 CFR 1910.147(d)(6))

Guide Note

- Review procedures to ensure employees verify isolation and de-energization before starting work on machines or equipment.

3. Release from Lockout/Tagout

3.1 Before lockout or tagout devices are removed and energy is restored to the machine or equipment, certain procedures must be followed and actions taken by the authorized employee(s). (29 CFR 1910.147(e))

Guide Note

- Verify that the work area has been inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.
- Verify that the work area has been checked to ensure that all employees have been safely positioned or removed.
- Verify that before lockout or tagout devices are removed and before machines or equipment are energized, affected employees have been notified that the lockout or tagout devices have been removed.
- Verify that after lockout or tagout devices have been removed and before a machine or equipment is started, affected employees have been notified that the lockout or tagout device(s) have been removed.
- Verify that each lockout or tagout device has been removed from each energy-isolating device by the employee who applied the device.
- When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of the employer, provided that specific procedures and training for such removal have been developed, documented, and incorporated into the employer's energy control program. Verify that the following steps are included in the program:
  - The employer must verify that the authorized employee who applied the device is not at the facility.
  - The employer must make all reasonable effort to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed.
  - The employer must ensure that the authorized employee has this knowledge before he/she resumes work at that facility.