

Hazardous Energy Control: Lockout / Tagout

(EHS Program Manual 7.4)



1.0 Overview

Environmental Health and Safety (EHS) at Weill Cornell Medicine (WCM) has developed this Hazardous Energy Control (Lockout/Tagout) Program to promote a safe work environment and comply with the Occupational Safety and Health Administration (OSHA) Control of Hazardous Energy (Lockout/Tagout) Standard (29 Code of Federal Regulations 1910.147).

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3.0 Objective

The objective of the Hazardous Energy Control (Lockout/Tagout) Program is to protect employees from exposure to all forms of hazardous energy while performing maintenance or work on WCM equipment, systems, and/or utilities. By using specific procedures that involve applying locks and tags, equipment is isolated from energy sources to prevent injuries to workers. This manual aims to guide managers, supervisors, employees, and contractors in complying with the Hazardous Energy Control Program.

4.0 Applicability

This program aims to prevent the accidental startup of machines or equipment and to prevent the release of stored energy during servicing or maintenance. These procedures must be adhered to whenever it is necessary to work on any machinery that may release hazardous energy; including but not limited to electrical, thermal, rotational, mechanical, chemical, hydraulic, or pneumatic energy, while the equipment is shut down.

The energy switches for new equipment or equipment that has undergone significant repairs, renovation, or modification after January 2, 1990, must be designed to accept a lockout device.

The lockout/tagout program consists of the following components:

- Energy Control Procedures
- Employee training
- Periodic inspections

4.1 PROGRAM EXCLUSIONS

The Hazardous Energy Control Program does not apply to:

- Cord and Plug-Connected Electrical Equipment if unplugging the equipment from the energy source controls the exposure to hazardous energy. The plug must be under the exclusive control of the employee performing the service or maintenance. Pneumatic tools may also fall into this category, provided that they can be completely isolated from their energy source.
- Hot Tap Operations that involve transmission and distribution systems for gas, steam, water, or petroleum products when these activities are performed on pressurized pipelines; **only** when continuity of service is essential, and shutdown of the system is impractical. In that case, employees must be provided with an alternative type of protection that is equally effective.

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5.0 Roles and Responsibilities

5.1 ENVIRONMENTAL HEALTH AND SAFETY (EHS)

EHS duties include:

- Educate, train, and enforce the Hazardous Energy Control Program (Lockout/Tagout) at WCM.
- Coordinate and perform annual review of the Hazardous Energy Control Program.
- Develop an annual report detailing institutional compliance with this program to all departments responsible for implementing the Hazardous Energy Control Program.
- Investigate any incidents and cases of non-compliance.
- Provide regulatory and safety guidance to E&M, Capital Planning, and other members of the WCM community.

5.2 ENGINEERING AND MAINTENANCE (E&M)

E&M responsibilities include:

- Supervise and manage staff in the proper implementation of the Hazardous Energy Control Program.
- Develop written Energy Control Procedures for all equipment (where required by [Section 6.0](#)) prior to de-energizing or performing maintenance work, and submit procedures to EHS upon request.
- Ensure all affected and authorized employees have been appropriately trained. Identify all new employees requiring training at the time of hire. Coordinate appropriate Hazardous Energy Control Program employee training with EHS.
- Provide all necessary energy isolation devices to authorized employees.
- Coordinate group lockout procedures and maintain compliance with this program.
- Coordinate Lockout/Tagout operations with employees over shift changes.
- Work with EHS to investigate any incidents and cases of non-compliance.

5.3 CAPITAL PLANNING AND OTHER DEPARTMENTS SUPERVISING CONTRACTORS

Capital Planning and WCM Departments supervising contractor activities must:

- Confirm that all contractors and sub-contractors performing energy control work have written Hazardous Energy Control Programs (Lockout/Tagout) and that these programs are available onsite at all times and provided to EHS for review upon request.
- Ensure all contractors perform work following this program and comply with all applicable OSHA regulations.
- Provide contractors with a copy of the WCM Hazardous Energy Control (Lockout/Tagout) Program.
- Verify that all contractor and sub-contractor employees engaged in hazardous energy control work maintain documentation of all required regulatory training.
- Coordinate all Energy Control work on WCM systems with E&M.

5.4 CONTRACTORS

Contractor responsibilities include:

- Develop, implement, and maintain a company-specific Hazardous Energy Control (Lockout/Tagout) Program consistent with all applicable OSHA regulations. A copy of this program must be available onsite at all times.
- Ensure the proper use of locks and energy isolation equipment.
- Maintain documentation of required regulatory training for all authorized and affected employees onsite.
- Coordinate all energy control work and work on WCM systems and utilities with Capital Planning or E&M.
- Notify EHS, E&M, and Capital Planning of any incidents that occur on campus related to hazardous energy control.

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5.5 EMPLOYEE RESPONSIBILITIES

Employees involved in hazardous energy control are categorized into two groups, Affected or Authorized. **Only Authorized Employees may lockout or tagout equipment. Authorized employees must always notify affected employees before the procedure is used and when the machine or equipment is returned to service.** The specific responsibilities associated with each role are detailed below.

5.5.1 Affected Employees

Affected employees are responsible for operating machinery or equipment upon which energy control (Lockout/Tagout) is applied, but who are not involved in the maintenance or service itself. These employees must stay apprised of all energy control in their work areas, or on the equipment that they operate.

Affected employees are responsible for:

- Complying with all requirements of this program manual.
- Remaining apprised of systems that have been de-energized. Employees must not use these systems until the appropriate authorized employee has energized them.
- Obtaining Hazardous Energy Control Program training for affected employees.

5.5.2 Authorized Employees

Authorized employees are those responsible for implementing Hazardous Energy Control Procedures in the field. These employees must demonstrate competency in hazardous energy control and be trained in the use of Energy Control Procedures, as well as in the contents of this program manual.

Authorized employees are responsible for:

- De-energizing and isolation of mechanical equipment or building systems as dictated by this program.
- Coordinating work activities with all Affected and Authorized Employees when conducting group lockouts or shift change operations.
- Utilizing the proper Energy Control Procedures for all energy control (lockout/tagout) operations.
- Obtaining Hazardous Energy Control Training for Authorized Employees.

6.0 Written Energy Control Procedures

Energy Control Procedures must be developed, documented, and implemented to control potentially hazardous energy sources whenever workers perform activities where the unexpected energization of a machine or release of stored energy could harm employees, as well as other activities covered by the OSHA standard.

Energy Control Procedures may not need to be developed for each individual piece of equipment and may be developed for groups of similar equipment. However, employees must be adequately protected from all hazardous energy they may come in contact with during the service or maintenance of the equipment.

At a minimum, the Energy Control Procedures must include the following elements:

- A statement on how the method will be used.
- The procedural steps needed to shut down, isolate, block, and secure machines or equipment.
- The steps designating the safe placement, removal, and transfer of lockout/tagout devices, and which employee has the responsibility for these devices.
- The specific requirements for testing machines or equipment to determine and verify the effectiveness of locks, tags, and other energy control measures.

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6.1 WRITTEN ENERGY CONTROL PROCEDURE EXCLUSIONS

Written Energy Control procedures are not required for work that meets all of the criteria below.

- The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy that could endanger employees after shutting down.
- The machine or equipment has a single energy source, which can be readily identified and isolated.
- The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment.
- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.
- A single lockout device achieves a locked-out condition.
- The lockout device is under the exclusive control of the Authorized Employee performing the servicing or maintenance.
- The servicing or maintenance does not create hazards for other employees.
- In making this exception, the department has had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.

7.0 Lockout/Tagout Procedure

The Lockout/Tagout procedure must be utilized on all applicable equipment prior to the start of any servicing or maintenance. If the equipment cannot be locked out, employees must still de-energize the equipment and apply safety tags.

The general procedures for bringing machines and equipment to a neutral or zero energy state and subsequent lockout/tagout are below.

7.1 PREPARATION FOR SHUTDOWN

Before an Authorized or Affected Employee turns off a machine or piece of equipment, the Authorized Employee must know the type and relative magnitude of the energy, the hazards of the energy to be controlled, the method or means to control the energy, and the method of communication of energy control.

Additionally, the Authorized Employee will notify Affected Employees that the machinery, equipment, or process will be out of service and again notify Affected Employees when the interruption in service has concluded.

7.2 MACHINE OR EQUIPMENT SHUTDOWN

An Authorized or Affected employee must turn off or shut down machine or equipment using established or manufacturer-specific procedures for that equipment.

7.3 MACHINE OR EQUIPMENT ISOLATION

An Authorized Employee must physically locate and operate all energy-isolating devices to isolate the machine from its energy source(s).

7.4 INSPECTION OF LOCKOUT/TAGOUT DEVICE

Before the application of any lockout/tagout device, the Authorized Employee will inspect each lockout/tagout device for damage. If a device is determined to be damaged, the Authorized Employee will obtain a new device from the supervisor. The damaged device will be surrendered to the supervisor, and the supervisor will discard it.

Under no circumstances will a non-functioning device, a device borrowed from another employee, or a device not specified for lockout / tagout be used.

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7.5 LOCKOUT/TAGOUT DEVICE APPLICATION

An Authorized Employee must isolate hazardous energy, which can occur using manually operated circuit breakers, disconnect switches, line valves, safety blocks, or other methods demonstrated to isolate hazardous energy effectively. Following isolation, an Authorized Employee must lock out (or tag out for machines and equipment that cannot be locked out) and apply a tag at each energy isolation point.

- Lockout devices must be affixed in a manner that will hold the energy isolating devices in a “safe” or “off” position.
- Tagout devices must be affixed in a manner that will clearly indicate that the operation or movement of energy isolating devices from the “safe” or “off” position is prohibited. The tag must explain why it was applied and be affixed in a manner that it cannot easily or accidentally be removed or damaged (e.g., zip tie).
- If the tagout device cannot be affixed directly to the energy isolating device, the tagout device must be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate it.

7.6 STORED ENERGY

After the energy-isolating device has been locked out and tagged or tagged out, all potentially hazardous stored energy, including any steam if applicable, must be relieved, disconnected, restrained, or otherwise rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed, or until the possibility of such isolation no longer exists.

7.7 VERIFICATION OF ISOLATION

Prior to starting work on machines or equipment that have been locked and tagged, an Authorized Employee must verify that isolation or de-energization of the machine or equipment has been accomplished.

7.8 BEGIN WORK

The procedure Hazardous Energy Control has now been completed. Work or servicing may begin on the equipment that has been de-energized and appropriately locked and tagged out.

8.0 Removal of Lockout/Tagout Devices

The procedures detailed below must be followed when removing lockout/tagout devices.

8.1 RELEASE FROM LOCKOUT OR TAGOUT

Before removing lockout or tagout devices and restoring energy, Authorized Employees must take these steps:

1. Inspect the work area to ensure that nonessential items have been removed and that the equipment components are intact.
2. Check the work area to make sure all employees are safely away from the equipment and:
 - All tools have been removed.
 - Any debris has been removed.
 - All guards have been replaced.
 - All employees are free from any hazard before the lock and tag are removed and the machinery, equipment, or process, is returned to service.
 - A final check of the equipment/area has been completed.
3. Notify Affected Employees before removing lockout or tagout devices and before energizing machines or equipment.
4. Notify Affected Employees after removal of lockout or tagout devices and before starting a machine.

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8.2 LOCKOUT OR TAGOUT DEVICES REMOVAL

The employee that applied the device is the only employee permitted to remove the specific lockout or tagout device from each energy-isolating device to which they applied it.

8.2.1 Exception

When the employee that applied the lockout/tagout devices is not available, and the device must be removed, the following procedure must be used:

1. A supervisor must verify that the employee has left the campus after every effort has been made to contact the employee.
2. The supervisor determines that the equipment or area is safe before the lockout/tagout is removed.
3. The supervisor must remove the lockout/tagout device.
4. All reasonable efforts must be made to contact and inform the employee that performed the initial lockout that the lockout/tagout device has been removed.
5. The supervisor must ensure that the employee has been informed that the lockout/tagout device has been removed before the employee resumes work.

8.3 EQUIPMENT START-UP

The lockout is complete. Affected employees may now start-up the equipment and operate it under normal conditions.

9.0 Personnel or Shift Changes

Many servicing and maintenance operations may extend across one or more work shifts. In such cases, it is crucial that Energy Control Procedures ensure that all hazardous energy is continuously maintained in a safe, de-energized condition. To maintain continuity in the protection provided to those involved in the lockout and tagout procedure, and for the orderly transfer of the lockout and tag device, the steps below are necessary when personnel or shifts change.

9.1 PERSONNEL CHANGE

The arriving Authorized Employee's lock and tag 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, energy control in place, the work in progress, and any issues that may have arisen during servicing.

9.2 SHIFT CHANGE

The lock and tag of at least one Authorized Employee on the arriving shift must be applied before any locks and tags of the departing shift are removed. The departing crew will inform the arriving crew of the status of the equipment and the work in progress.

10.0 Testing or Positioning of Machines or Equipment

If lockout devices and tags must be temporarily removed from energy-isolating devices in order to energize and test the equipment or to reposition any of its components, the Authorized Employee will:

1. Clear the equipment of tools and materials and have employees leave the equipment area.
2. Remove employees from the machine or equipment area as dictated by normal start-up procedures.
3. Remove the lockout devices and tags from the energy-isolating devices in line with the procedure established in this program.
4. Energize the equipment then proceed with testing the equipment or repositioning the components.
5. De-energize all systems and replace all lockout devices and tags on the equipment.
6. Release all stored energy that may have accumulated during energization.
7. Continue with service or maintenance.

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11.0 Group Lockout/Tagout Procedure

During all group lockout/tagout operations where the release of hazardous energy is possible, the following procedures must be followed:

- A group lockout/tagout must afford each employee a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.
- A single Authorized Employee must be given primary responsibility for a set number of employees working under the protection of a group lockout or tagout device. This employee is to be known as the “Primary Authorized Employee”.
- The Primary Authorized Employee must determine the exposure status of individual group members to the hazards posed by the machinery being locked out or tagged out.
- If there will be more than one crew, department, or group involved in the activity, a Single Authorized Employee must be designated to coordinate affected workforces and to ensure continuity of protection.
- Each Authorized Employee must affix a personal lockout/tagout device to the machine or equipment when work begins and remove it when the employee stops working on the machine.
- An Authorized Employee may not remove another employee’s personal lockout/tagout device unless it has been determined and verified that the employee has left campus and every effort has been made to contact that employee.

12.0 Outside Personnel or Contractors

All non-WCM personnel or contractors involved in service or maintenance operations that meet the applicability of this program are required to have a written Hazardous Energy Control (Lockout / Tagout) Program. Contractors must have all required regulatory training to perform energy control work. Records of this training are to be kept onsite at all times while the contractor is working at WCM and provided to EHS when requested. Hiring departments will be responsible for ensuring contractors have these programs in place and all work is compliant with applicable regulatory guidelines. Contractors without a written plan will not be permitted to perform control of hazardous energy.

Contractors and WCM employees conducting work requiring hazardous energy control are responsible for informing each other of the work being conducted and the procedures being utilized. The WCM department representative supervising the contractor must ensure that EHS and all affected WCM employees understand the outside contractor’s lockout/tagout procedures and that no hazards are posed to WCM employees by outside contractor work.

WCM employees are also responsible for informing outside contractors of the procedures used to control hazardous energy and ensuring no contractor is exposed to hazardous energy as a result of WCM work.

Contractors must indicate on tags their company name and project the work is related to, in addition to the reason for the work and the system under energy control.

13.0 Protective Materials and Hardware Requirements

Employees must be provided with the necessary protective materials and hardware to perform energy control (lockout/tagout). These items may include locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware. It is the responsibility of department supervisors to ensure that employees performing lockout/tagout have all the necessary materials to safely do so.

All devices used for lockout/tagout must be appropriately identified as the only devices used for controlling energy, and must not be used for any other purposes. Lockout/tagout devices must also meet the requirements below.

13.1 LOCKOUT DEVICES

Authorized Employees will be provided with individually keyed padlocks by their supervisor. Each employee’s lock will be uniquely keyed, and only the employee will be provided keys to open the locks. The employee keys will not be able to open any other employee’s locks. Employees are only permitted to use their own individually assigned locks. Sharing or borrowing of locks is not permitted.

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Lockout devices must be 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. All lockout and devices must be able to withstand the environment in which they will be deployed.

13.2 DANGER TAGS

Authorized Employees will be provided with standardized warning tags to identify equipment that has been locked out. Tags must be affixed to all points where energy has been isolated.

Tagout devices must contain the signal word "Danger" and must warn against hazardous conditions if the machine or equipment is energized. They should include wording such as: "Do Not Start. Do Not Open. Do Not Close. Do Not Energize. Do Not Operate."

At a minimum, tags must also contain the following information (See also Appendix A):

- Signature or initials of the person applying tag and energy control.
- Date (including year) energy control initiated.
- The system or service that has been isolated.
- Reason for energy control

Tagout devices must be substantial enough to prevent inadvertent or accidental removal and must be constructed so that exposure to weather conditions, wet and damp locations, or corrosive materials will not cause the tag to deteriorate or the message on the tag to become illegible. Tagout devices must be attached with nylon cable ties that are non-reusable, self-locking, and not releasable by hand.

Authorized Employees are not permitted to affix or remove another employee's tag.

13.3 ENERGY ISOLATION DEVICES

Authorized employees performing servicing or maintenance on all equipment or utilities must place a lockable energy isolation device prior to the start of service or maintenance that could result in a release of hazardous energy.

Required energy isolation devices will be identified in the appropriate energy control procedure. Energy isolation devices can then be obtained from the Authorized Employee's supervisor.

14.0 Training

Training for WCM employees will be conducted based on their responsibilities under the Program.

All Authorized and Affected WCM employees must receive initial and annual refresher training. EHS will coordinate and track training requirements for the campus. All training will be recorded and logged in the EHS Training Database. EHS can be contacted to arrange training or for the training status of any employee.

14.1 AUTHORIZED EMPLOYEES

Authorized employees will be given an initial training at the time of hire to address recognition of applicable hazardous energy sources, the type and magnitude of the energy in the workplace, and energy isolation and controls.

Supervisors must contact EHS to schedule training any time a new employee is hired. Training must be conducted before the employee can be designated as "Authorized" and perform lockout/tagout work.

An annual training session will be conducted for all Authorized Employees to review the Hazardous Energy Control Program and refresh the items given in the initial training.

14.2 AFFECTED EMPLOYEES

Affected Employees will receive training that addresses the purpose and use of energy control, the WCM Hazardous Energy Control Program, and the hazards associated with trying to energize equipment that has been locked/tagged out.

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14.3 RE-TRAINING

Re-training will be provided for employees whenever there is a change in job assignment, a change in machines, equipment, or process that presents a new hazard, or a change in this lockout/tagout program or Energy Control Procedures.

Incidents or injuries that result from a failure to adhere to the requirements outlined in the program will trigger retraining for all involved employees and supervisors. Supervisors must alert EHS of any changes in job assignments or incidents that would require retraining. EHS will then coordinate a training session with the supervisor.

Retraining will also be provided whenever a regular inspection or the annual program review identifies a deficiency in the program.

15.0 Record Retention, Availability, and Revisions

15.1 ENERGY CONTROL PROCEDURES

Supervisors must maintain and distribute Energy Control Procedures for all pieces of equipment under their supervision that meet the requirements of [Section 6.0](#).

Energy Control Procedures must be available upon request, utilized by all authorized employees while performing Lockout/Tagout, and maintained for as long as the specific piece of equipment is on campus.

15.2 TRAINING RECORDS

EHS maintains all Hazardous Energy Control Training records. Training records will be reviewed on an annual basis to ensure compliance with this program and will be available upon request.

Contractors are responsible for maintaining relevant training records onsite for any of their staff engaging in hazardous energy control. These records must be available to WCM for review at any time. Contractors without hazardous energy control/LOTO training will not be permitted to do energy control work at WCM.

15.3 REVISIONS

An annual review will be conducted of the Hazardous Energy Control Program. Program revisions will be made should any deficiencies be identified during the annual report.

Updates to the OSHA Control of Hazardous Energy Standard (29 CFR 1910.147) will trigger a review of the program, and any necessary revisions will be made during the program review.

16.0 Definitions

Affected Employee: An employee who operates machinery or equipment upon which lockout/tagout is required under this program, or whose job involves work in an area in which such servicing or maintenance is being performed.

Authorized Employee: An employee responsible for implementing the Control of Hazardous Energy Procedure on equipment. These employees are trained on an annual basis on how to recognize hazardous energy, using Energy Control Procedures, and safely applying energy isolation devices.

Capable of being locked out: An energy-isolating device that has a hasp or other means of attachment to which or through which a lock can be affixed, or 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 devices 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;

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- 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;
- Any similar device used to block or isolate energy.

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

Energy Source: Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy types.

Energy Control Procedure: A written document that contains information an authorized employee needs to know to safely control hazardous energy during servicing or maintenance of machines or equipment.

Energy Control Program: A program intended to prevent the unexpected energizing or the release of stored energy in machines or equipment on which employees perform servicing and maintenance. The program consists of an energy control procedure(s), an employee training program, and periodic inspections.

Hiring Department: A department that procures the services of a contractor who will be involved in energy control work. The hiring department is responsible for ensuring the contractor meets the requirements of this program.

Hot tap: A procedure used in the repair, maintenance and service activities which involves welding on a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or accessories. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

House System: A building system or utility that contains or has the potential to expose employees to hazardous energy. House systems are in full operation and under control of WCM E&M. Some examples of house systems included electric, natural gas, steam, etc.

Lockout: The placement of a lockout device on an energy-isolating device (e.g., circuit breaker or electrical power disconnect), as dictated by 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 a safe position and prevent the energizing of a machine or equipment. This tool prevents unauthorized personnel from turning on a machine or equipment while it is being serviced.

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

Primary Authorized Employee: An authorized employee who supervises energy control when multiple authorized employees are involved. This function has overall responsibility for meeting the requirements of this program.

Servicing and/or maintenance: Workplace 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 energization or startup of the equipment or release of hazardous energy.

Setting up: Any work that prepares a machine or a piece of equipment to regain its normal production operation.

Tagout: The placement of a tagout device in addition to a lockout device, as required by 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 alone is permitted when the energy isolating devices are not lockable. Special procedures must be developed when a device cannot be locked out.

Note: The energy switches for new equipment or equipment that has undergone significant repairs, renovation, or modification after January 2, 1990, must be designed to accept a lockout device.

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 line 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.

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17.0 References

- **American National Standards Institute**
Control of Hazardous Energy - Lockout/Tagout and Alternative Methods – ANSI 244.1-2003
- **National Fire Protection Association**
Standard for Electrical Safety in the Workplace – NFPA 70 E
- **Occupational Safety and Health Administration**
Control of Hazardous Energy (Lockout / Tagout) Standard (29 CFR 1910.147)
Control of Hazardous Energy (Lockout / Tagout) Standard for Construction (29 CFR 1926.416)

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Appendix A – Example Tag

Front

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Hazard Warning →

Area to describe service isolated, and reason for lockout. →

Signature →

Department or company performing energy control →

Date (including year) energy control initialed →

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