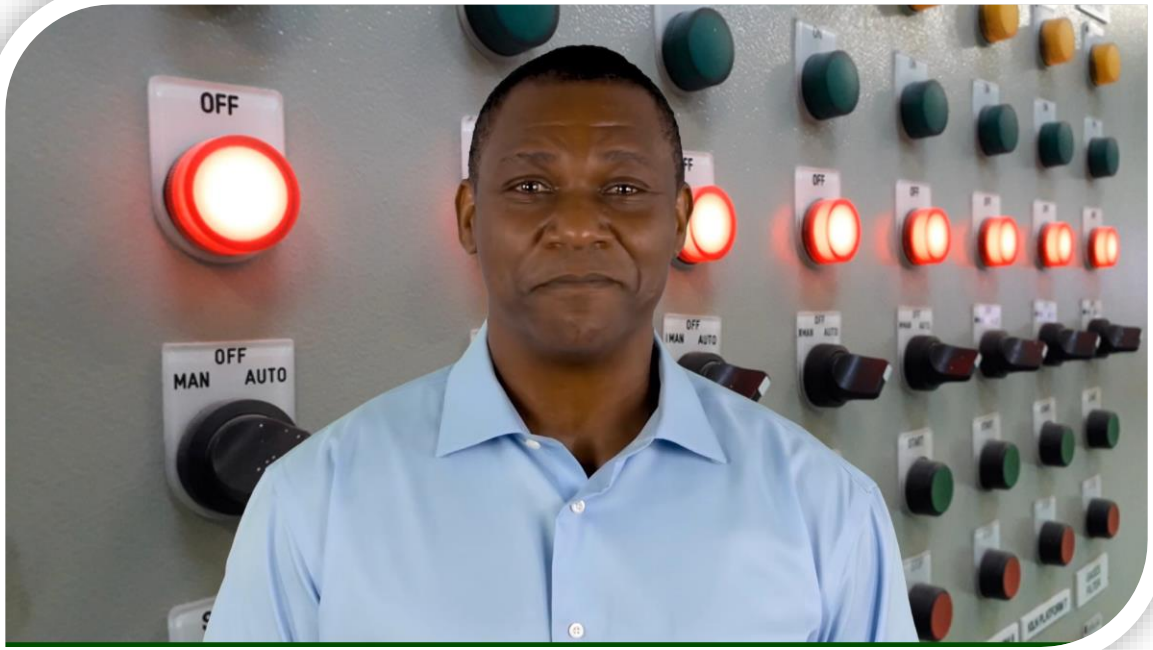
MISSION CIT
Critical Immersive Training





OSHA CARE BY MISSIONCIT™

Lockout Tagout

OSHA Care Ch 02

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Lessons

1. Starting with the Basics
2. Handling Machines
3. Lockout Tagout Procedures
4. Employee Training

Copyright © MissionCIT, LLC 2020-2021 All Rights Reserved | OSHA Care™ Chapter 02 | Lockout Tagout



Starting with the Basics



COPYRIGHT © MISSION

What is Lockout Tagout?

- OSHA standards for safely shutting down equipment before servicing them
- Handle the stored energy in machines
- Employers have custom LOTO programs, provided they adhere to OSHA standards





COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Who do these Standards Apply for?

- General workers involved in the repair and servicing of machines
- Exposed to hazardous energies and unexpected energization from machines
- Responsible for removing or bypassing safety devices
- Those who have to keep body parts in a danger zone
- Machines with an electrical, thermal, chemical, mechanical pneumatic, or other energy as their source

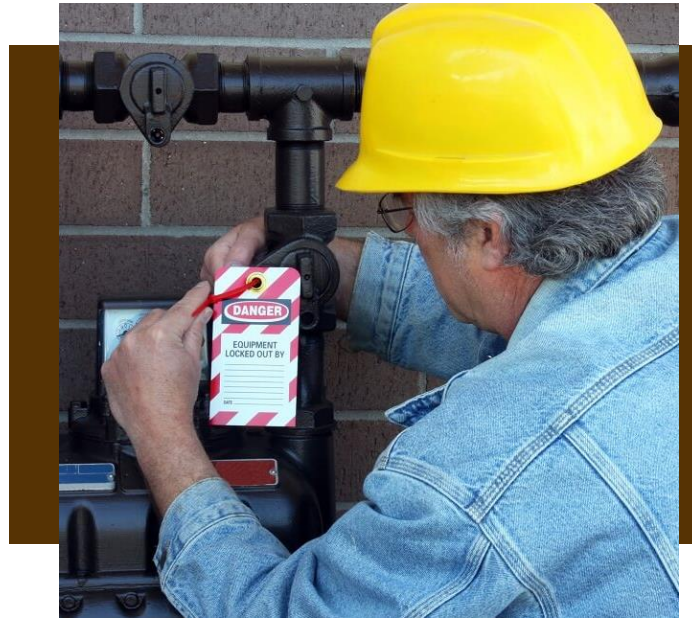


COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

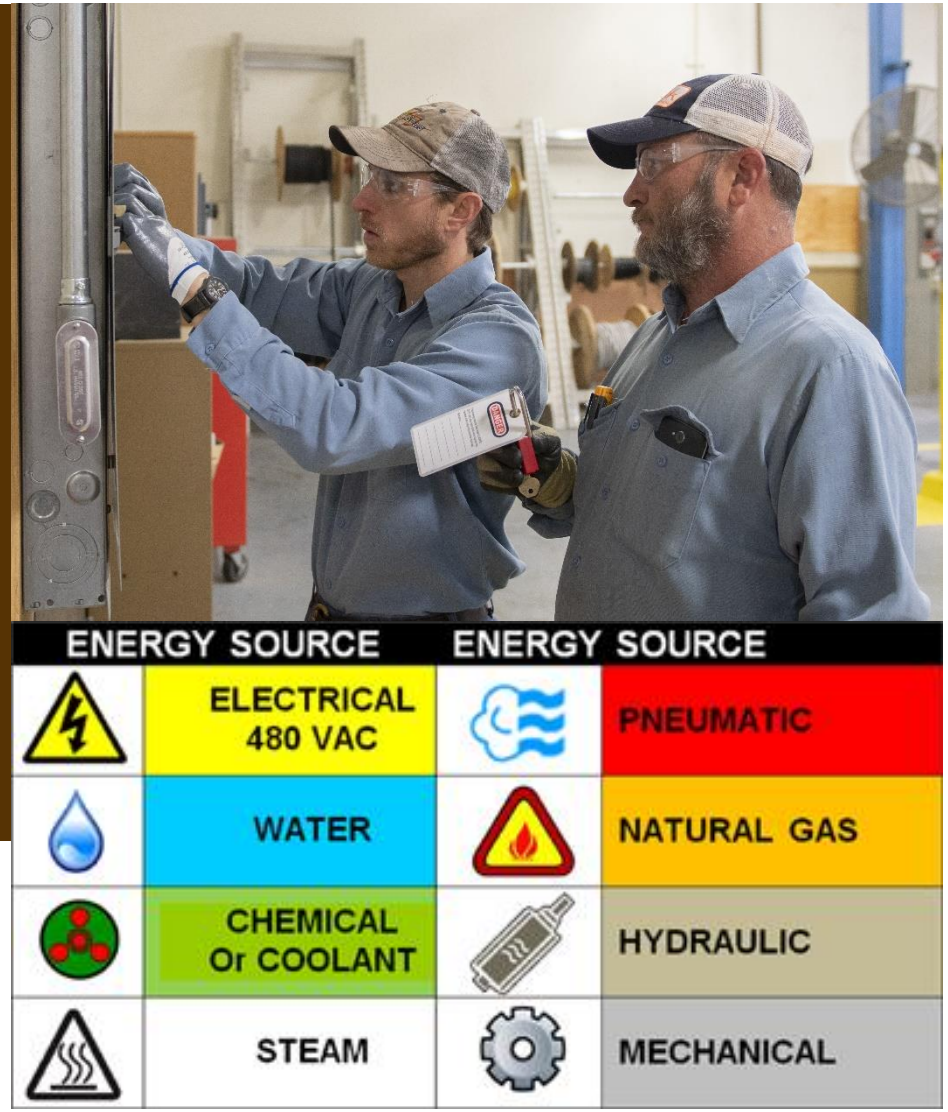


Who Don't Come Under these Standards?

- Not for machines that don't release hazardous energy
- Those involved in minor servicing
- Not for those in construction, agriculture, oil and gas, and maritime equipment
- Who work on cord and plug connected devices
- Hot tap operations
- Any employee governed by specialized laws



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



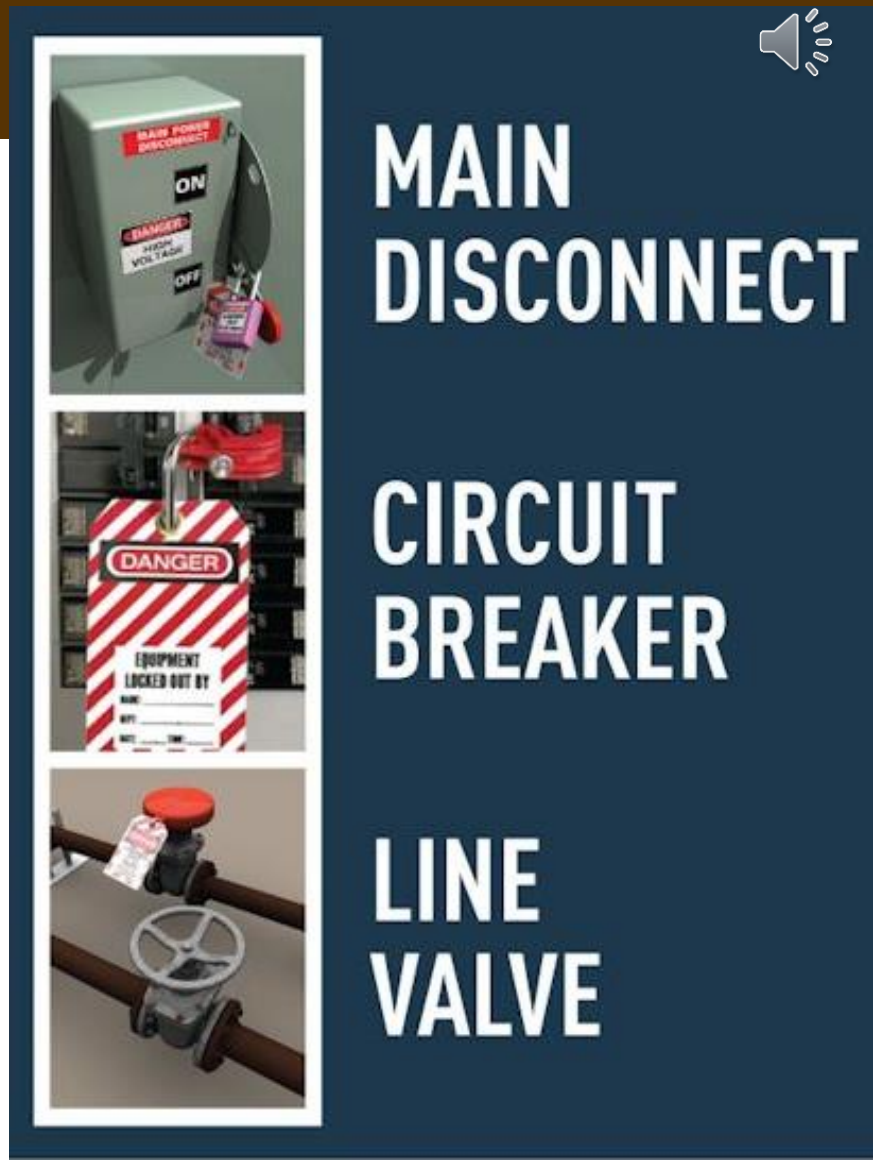
Basic Definitions

- Authorized employee
- Affected employee
- Other employees
- Energized
- Energy-isolating device
- Energy source

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Basic Definitions (Cont.)

- Lockout
- Lockout Device
- Normal production operations
- Servicing and/0r maintenance
- Tagout
- Tagout device



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Handling Machines



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Energy Control Program

- States that unexpected machine start-up or unreleased energy can cause injuries, so equipment must be isolated
- Three components:
  - ✓ Energy control procedures
  - ✓ Employee training
  - ✓ Periodic inspections





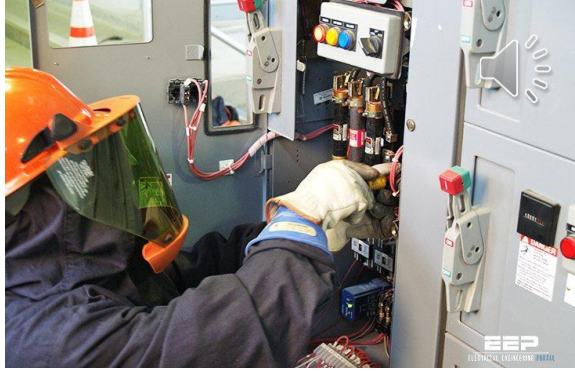
COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Energy Control Procedures

- Onus is on employer to develop and document specific programs to prevent injuries from unreleased energy
- Exempted when,
  - ✓ Machine has no potential for stored energy
  - ✓ Has only a single source that can be isolated
  - ✓ Isolation will de-activate the machine
  - ✓ Single lockout is enough
  - ✓ Lockout device is under the complete control of authorized employee
  - ✓ No history of accidents



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Documentation

- Scope, purpose, authorization, rules, and techniques
- Means used to enforce compliance
- Intended use of documentation
- Detailed and specific steps for shutting down
- Specific procedural steps
- Specific requirements for testing



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT





Periodic Inspection

- Periodic inspections
- At least once a year
- Identify deviations and correct them
- Certificate issued:
  - ✓ Machine on which inspection was done
  - ✓ Date of inspection
  - ✓ Employees included
  - ✓ Name of the person who did the inspection

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

New or Modified Equipment

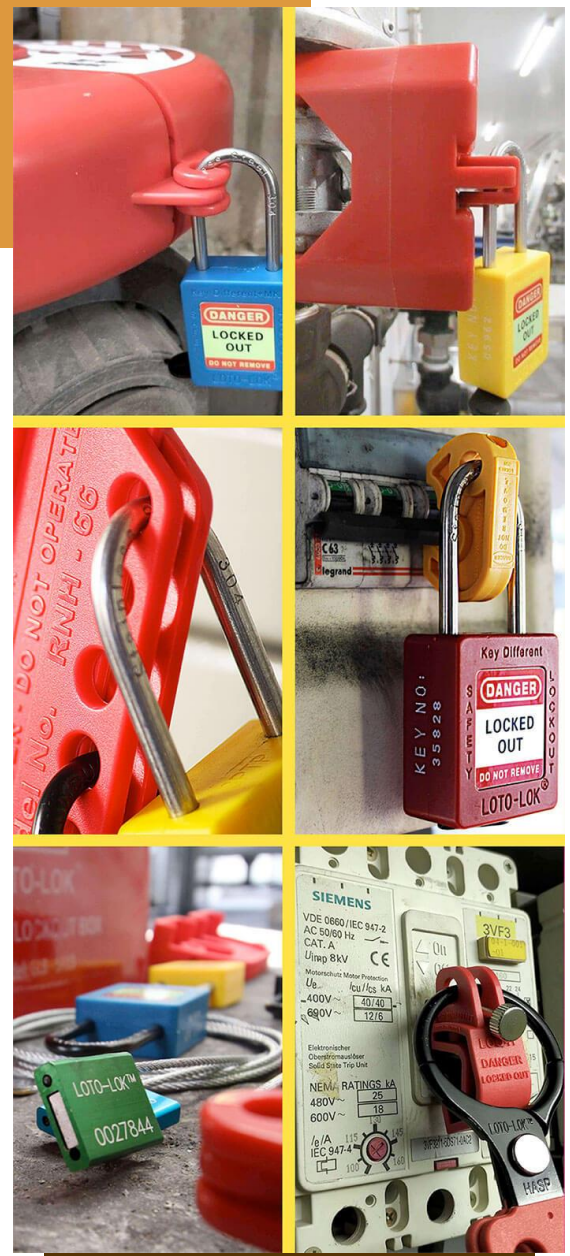
- Applicable for all machines and equipment that have undergone repair or renovations after January 2, 1990
- Safe to assume that most machines have undergone repairs since 1990



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Materials and Hardware

- Locks, tags, chains, key blocks, wedges, self-locking fasteners, and other pieces of hardware
- Durable and capable of withstanding environmental forces
- Easily identifiable
- Only on devices that release stored energy
- Standardized and follow existing procedures
- List of authorized employees
- No need for excessive force
- Must not deteriorate in acid and alkali environment
- Standardized in print and form
- Non-reusable, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds
- Warn against hazardous conditions
- Must contain clear warnings



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Application of Energy Control

- Preparing for shutdown
- Follow the instructions
- Energy-isolating devices
- Lockout and tagout devices
- Render it safe
- Checks by authorized employee





COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Lockout/Tagout Procedures



Copyright © MissionCIT, LLC 2020-2021 All Rights Reserved | OSHA Care™ Chapter 02 | Lockout Tagout

Preparing for Shutdown

- Prepare machine for shutdown
- Machines can release stored energy when shutdown abruptly
- Shutdown must be done by an authorized employee only
- Must know the type and magnitude
- Safety measures must be followed



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Shutting Down

- Shut down safely
- Employee must be aware of the process
- Exact order and procedures must be adhered to
- Laid down by employer and depends on the nature of the machine



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Isolating the Equipment

- After shutting down the machine, look for the source of the machine's energy
- Includes switches, valves, circuit breakers, etc
- Identified physically and isolated
- Done only by authorized employee
- Machine safe for servicing



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Applying the Lockout/Tagout Procedures

- Inform other employees that the equipment is safe for service or repair
- Apply lockout or tagout devices
- Prohibit employees from turning from Safe to Off position
- Must state that authorized employees alone can access these devices

Copyright © MissionCIT, LLC 2020-2021 All Rights Reserved | OSHA Care™ Chapter 02 | Lockout Tagout

Releasing Stored Energy

- Bleeding off pressure
- Blocking elevated parts
- Draining lines
- Allowing the equipment to cool
- Discharging capacitors
- Other methods as specified by the manufacturer

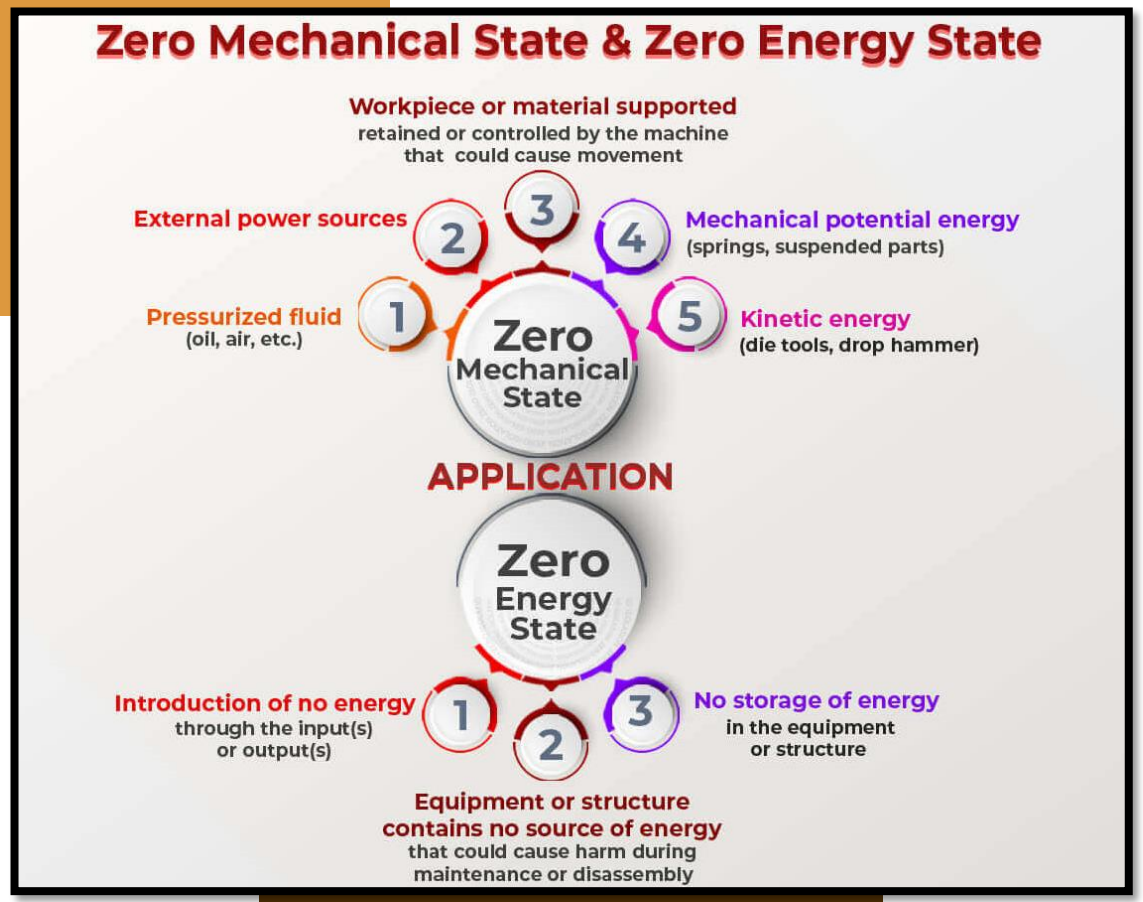




COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Verification

- Verify that all procedures are followed
- Authorized employee must verify that the equipment is in a Zero Energy State
- Documentation
- Machine is deemed to be safe



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

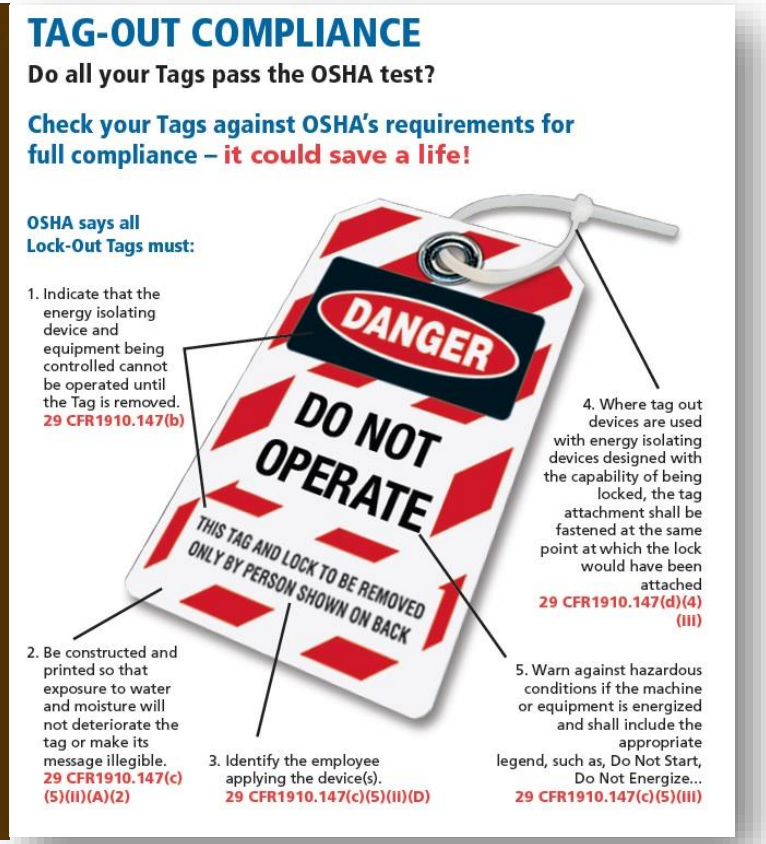
Release from a Lockout/Tagout

- Replace all guards and safety devices
- Remove all tools and non-essential items
- Move any blocking devices
- Ensure that the machine is intact
- Employees must be in a safe location
- Lockout/tagout device must be operated by authorized employee only





Copyright © MissionCIT, LLC 2020-2021 All Rights Reserved | OSHA Care™ Chapter 02 | Lockout Tagout



Using Tagout Alone

- Tags are just warnings
- Removed by authorized person
- Contents must be legible and readable
- Must hold up under conditions of use
- Evokes a false sense of security
- Understand the why and how
- Comply with all lockout and tagout procedures



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED

Control of Hazardous Energy for Lockout/Tagout



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Employee Training



COPYRIGHT © MISSION

Initial Employee Training and Communication

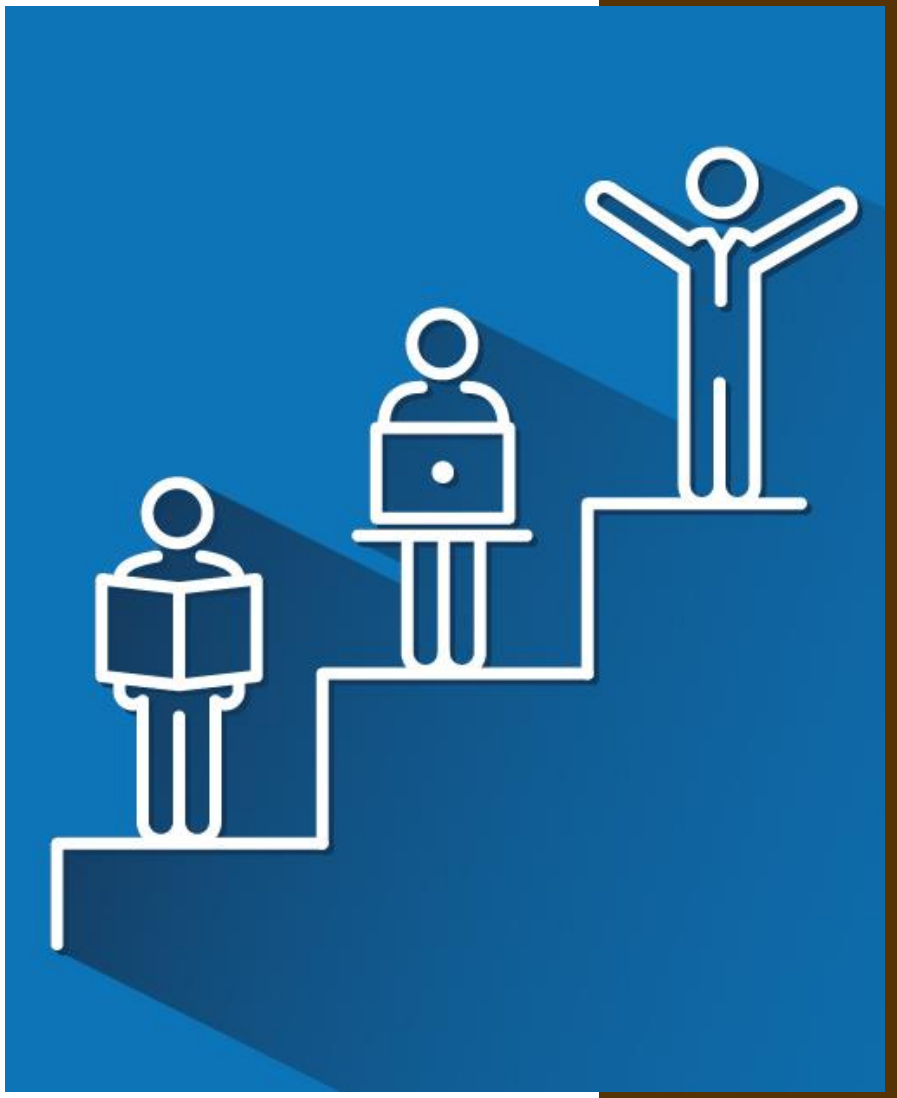


- Understand the purpose and function
- Get required knowledge and skills
- Recognize hazardous energy sources
- Identify the type and magnitude
- Isolate and control hazardous energy
- Understand that machines with this tag must never be operated
- It must be handled only by authorized employees

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Ongoing Training

- Aware of the latest standards and guidelines
- Necessary when:
  - ✓ Nature of job assignment changes
  - ✓ Logout and tagout procedures change
  - ✓ Type and nature of hazards change



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Additional Training for Tagout Systems

- Just warning devices
- Must not be removed without authorization
- Readable to all employees
- In a language that every employer can understand
- Trained to understand its meaning



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Employee Retraining

- Change in job requirements
- Change in working of the machines that increase its hazards
- Updates to energy control procedures
- Presence of deviations identified during inspections
- Gap in understanding and use of energy control procedures

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Full Employee Protection

- Removing and isolating a circuit element
- Blocking a control switch
- Opening an extra disconnecting device
- Removing a valve handle to reduce the potential for any inadvertent energization while the tags are attached
- Anything else that will better protect all the employees

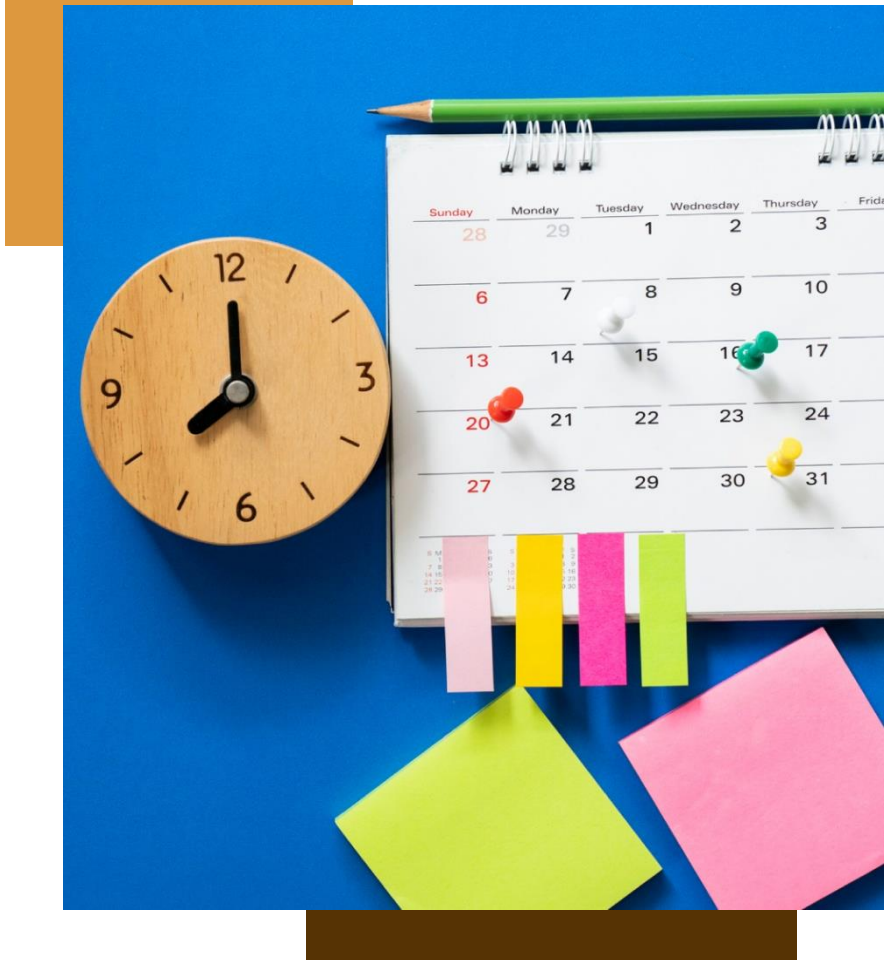




COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Shift and Personnel Changes

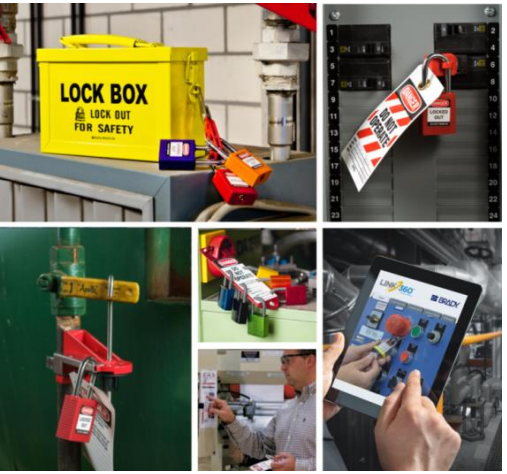
- Maintained through shift and personnel changes
- Orderly transfer of lockout and tagout protection
- Onus is on employers



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Employee Response Personnel

- Emergency response personnel must be aware
- Thoroughly understand the rules
- Procedures should not violate OSHA standards
- Onsite employer's tagout and lockout procedures must be followed





COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Group Lockout and Tagout

- Protection for all employees
- Primary responsibility of the group vested in a single employee
- Such employee must determine the exposure status
- One authorized employee per department or crew
- Lockout and tagout must meet existing OSHA standards



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT



Chapter Review



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Lesson 1 – Starting with the Basics

- OSHA standards for safely shutting down equipment before servicing them
- Handle the stored energy in machines
- Apply to employees working in certain industries
- Revisit definitions discussed earlier



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Lesson 2 – Handling Machines

- Energy Control Program – States that unexpected machine start-up or unreleased energy can cause injuries, so equipment must be isolated
- Three components: Energy control procedures, Employee training, and Periodic inspections
- Onus is on employer to develop and document specific programs to prevent injuries from unreleased energy
- Hardware used for isolating and blocking machines – Locks, tags, chains, key blocks, wedges, and self-locking fasteners



COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT

Lesson 3 – Lockout Tagout Procedures

- Prepare machine for shutdown – Carried out by authorized employees only
- Control the released energy
- Shut down the machine safely
- Locate source of machine's energy for service
- Safely release the stored energy without impa anyone or anything
- Verify all procedures have been followed
- After repair, equipment ready for operations, r release lockout or tagout device





Copyright © MissionCIT, LLC 2020-2021 All Rights Reserved | OSHA Care™ Chapter 02 | Lockout Tagout



Lesson 4 – Employee Training

- Initial training – Helps employees to learn energy control program and its implications
- Ongoing training – Ensures employees are aware of latest standards and guidelines
- Additional training – For using tagout systems and know its limitations
- Introduce employees to new guidelines
- Re-establish employee's proficiency
- Implement safety precautions

COPYRIGHT © MISSIONCIT, LLC 2020-2021 ALL RIGHTS RESERVED | OSHA CARE™ CHAPTER 02 | LOCKOUT TAGOUT