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Hazardous Energy Control – Lockout/Tagout

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Outline

- Energy Sources
- Employer Responsibilities
- Authorized Employee Responsibilities
- Energy Control (LO/TO) Equipment & Devices
- Lockout/Tagout Procedures
- Training
- Annual Lockout/Tagout Evaluations

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Why is LOTO Important



- The Lock Out/Tag Out procedure prevents the unexpected start up or release of stored energy that could cause injury to employees by placing a lock and/or warning tag on an energy isolation device.

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Hazardous Energy Sources



- Electrical
- Mechanical (i.e. motors, drive belts)
- Chemical (i.e. natural gas or propane)
- Thermal
- Pneumatic
- Hydraulic
- Gravity

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29 CFR 1910.147 Mandated October 30, 1989

- Requires employer to establish a program consisting on energy control procedures
- Requires documented employee training
- Requires periodic inspections, at least annually

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Employer's Responsibilities

- Equipment procedures
- Identify authorized employees
- Energy control devices
- Training
- Annual evaluations

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Authorized Employee's Responsibilities

- Attend and participate in required training
- Follow all procedures
- Consult with supervisor with questions or concerns
- Notify all affected employees of LOTO activities

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Contractor's Responsibilities

- Employer and onsite contractor must exchange LOTO information
- Onsite employees must understand and comply with contractor's rules
- Host employer best practice: first lock on, last lock off

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Equipment

- Must be singularly identified
- Must not be used for any other purpose



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Equipment (cont.)

- Devices must be durable and standardized
- Devices must prevent accidental removal



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Equipment (cont.)

- One key issued to authorized employee apply lock



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Equipment (cont.)

- Lockout may be accomplished using lock and key, chains or other hardware to isolate energy sources



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Required Tagout Device Information

- Name of authorized employee
- Authorized employee's contact information (including contractors)
- Date and time of lockout
- Brief description of work being performed

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Tagout Equipment

- An approved warning tag must accompany all lockouts
- Warning tag must be attached directly to the lockout device by nylon tie



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Tagout Procedures

- Preparation for shutdown
- Shutting down the equipment
- Equipment isolation
- Application of LOTO devices
- Release of stored energy
- Verifying equipment isolation

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Preparing for Shutdown

- Know the types and amounts of energy that powers specific equipment
- Know the energy hazards
- Know how energy can be controlled
- Direct any questions to immediate supervisor



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Application of Devices

- Use valve covers, plug locks, etc. if the lock can't be placed directly on the energy control
- When lockout is used, every employee in the work crew must attach their own personal lock



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Application of Devices

- A tagout system alone is not acceptable at any time unless the equipment is not capable of being locked out and shall demonstrate the same level of protection as LOTO
- Cannot be used in lieu of LOTO



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Release of Stored Energy

- Inspect system to ensure all parts have stopped moving
- Disperse stored energy
- If stored energy can build up again... monitor



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Restoring Equipment

- Notify employees
- Verify tools have been removed and guards have been re-installed
- Energize equipment

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Shift Changes

- If servicing lasts more than 1 shift, LOTO protection cannot be interrupted:
- Original authorized employee removes their lock and incoming employee places theirs on the isolating device
- Incoming authorized employee must verify all energy sources are locked out prior to beginning work

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Abandoned Lock Procedure

- Verify authorized employee has left worksite and notify them lock is being removed
- LOTO devices may only be removed if supervisor is present and authorizes
- Once all communication attempts are complete and equipment has been inspected, lock can be removed and new lock may be installed

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Equipment Written Procedures

- Written specific LOTO forms must be completed
- All equipment-specific procedures must be readily available
- Procedures must be updated when
 - New equipment is installed
 - New energy sources added
 - Magnitude of energy source changes
 - Designation of isolation source changes

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Training

- Supervisors
- Authorized employees
- Affected employees



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Re-training

- Change in authorized employee's job assignments or area that contains sources of hazardous energy
- Change in machines, equipment or process that presents new hazard(s)
- Change in energy control procedures
- Need is identified during periodic inspections

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Periodic Inspections

- Employer must certify
 - Inspection is conducted at least annually by authorized employee other than one using procedures
- Identify deficiencies in or deviations of the program

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Summary Review

- Energy sources
- Employer responsibilities
- Authorized employee responsibilities
- Energy control (LOTO equipment) and devices
- LOTO Procedures
- Training
- Periodic inspections

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