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Supersedes: New

Lockout - Tagout Program

3.1 Purpose

- 3.1.1 The safe control of hazardous energy is the purpose of the Lockout-Tagout program. This program establishes the requirements for isolation of electrical, chemical, thermal, hydraulic, pneumatic and gravitational energy prior to equipment repair, adjustment or removal. Reference: OSHA Standard 29 CFR 1910. 147.

3.2 Application

- 3.2.1 Any machinery or equipment in this facility, that requires work by our employees, falls under the control of this procedure.
- 3.2.2 All employees of Keene State College who may perform work on machinery are subject to these rules.

3.3 Definitions

3.3.1 Authorized (Qualified) Employees

Authorized (Qualified) employees are the only ones certified to lock and tag out equipment or machinery. Whether an employee is considered to be qualified will depend upon various circumstances in the workplace. It is likely for an individual to be considered "qualified" with regard to certain equipment in the workplace, but "unqualified" as to other equipment. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person, is considered to be "qualified" for the performance of those duties.

3.3.2 Affected Employees

Affected employees are those employees who operate machinery or equipment upon which lockout or tagging out is performed under this program. Training of these individuals will be less stringent in that it will include the purpose and use of the lockout procedures, and how to identify and be aware of locks and tags in their work area.

3.3.3 Other Employees

Are identified as those that do not fall into the authorized, affected or qualified employee category. Essentially, it will include all other employees. These employees will be provided instruction in what the program is and not to touch any machine or equipment when they see that it has been locked or tagged out.

3.3.4 Lock (for lockout)

A lock is an energy isolating device that physically prevents the transmission or release of energy.

3.3.5 Tag (for tagout)

A tag is a visual device that communicates the hazard, but does not physically prevent energy from being transmitted.

3.3.6 Testing

A determination that equipment or systems are de-energized.

3.4 Training

3.4.1 Authorized Employees Training

All affected Keene State College employees, and their Supervisors will be trained to use the Lock and Tag Out Procedures. The training will be conducted by a Supervisor or Safety Coordinator at time of initial hire as part of the New Employee Safety Orientation. Retraining shall be held at least annually.

3.4.2 Affected Employee Training

3.4.2.1 Affected employees will be instructed that only trained and authorized employees will repair, replace or adjust machinery, equipment or processes.

3.4.2.2 Affected employees may NOT remove Locks, locking devices or tags from machinery, equipment or circuits.

3.4.2.2 Affected employees will review the purpose and use of the lockout procedures.

3.4.3 Other Employee Training

3.4.3.1 This will review that only trained and authorized employees will repair, replace or adjust machinery or equipment.

3.4.3.2 Other employees may not remove locks, locking devices or tags from machinery, equipment or circuits

3.5 Preparation for Lock and Tag Out Procedures

A Lockout - Tagout survey will be conducted to locate and identify all energy sources to verify which switches or valves supply energy to machinery and equipment.

3.6 Routine Maintenance & Machine Adjustments

Lock and Tag Out procedures are not required if equipment must be operating for proper adjustment. This rare exception may be used only by trained and authorized Employees when specific procedures have been developed to safely avoid hazards with proper training. All consideration shall be made to prevent the need for an employee to break the plane of a normally guarded area of the equipment by use of tools and other devices.

3.7 Locks, Hasps and Tags

All Qualified employees will be assigned a lock with one key, hasp and tag. All locks will be keyed differently, except when a specific individual is issues a series of locks for complex lockout-tagout tasks. In some cases, more than one lock, hasp and tag are needed to completely de-energize equipment and machinery. All locks and hasps shall be uniquely identifiable to a specific employee or their department.

3.8 SOP: General Lock and Tag Out Procedures

Before working on, repairing, adjusting or replacing machinery and equipment, the following procedures will be utilized to place the machinery and equipment in a neutral or zero mechanical state. The LOTO Permit Record at the end of this procedure must be completed when lockout/tagout is performed.

3.8.1 Preparation for Shutdown.

Before authorized or affected employees turn off a machine or piece of 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 means to control the energy.

All affected Employees must be notified that the machinery, equipment or process will be out of service.

3.8.2 Machine or Equipment Shutdown.

The machine or equipment will be turned or shut down using the specific procedures for that specific machine. An orderly shutdown will be utilized to avoid any additional or increased hazards to employees as a result of equipment de-energization.

If the machinery, equipment or process is in operation, follow normal stopping procedures (depress stop button, open toggle switch, etc.).

Move switch or panel arms to "Off" or "Open" positions and close all valves or other energy isolating devices so that the energy source(s) is disconnected or isolated from the machinery or equipment.

3.8.3 Machine or Equipment Isolation.

All energy control 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.

3.8.4 Lockout or Tagout Device Application.

Lockout or tagout devices will be affixed to energy isolating devices by authorized employees. Lockout devices will be affixed in a manner that will hold the energy isolating devices from the "safe" or "off" position.

Where tagout devices are used they will be affixed in such a manner that will clearly state that the operation or the movement of energy isolating devices from the "safe" or "off" positions is prohibited.

The tagout devices will be attached to the same point a lock would be attached. If the tag cannot be affixed at that point, the tag will be located as close as possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

Lock and tag out all energy devices by use of hasps, chains and valve covers with an assigned individual locks.

3.8.5 Stored Energy

Following the application of the lockout or tagout devices to the energy isolating devices, all potential or residual energy will be released, disconnected, restrained, and otherwise rendered safe.

Where the re-accumulation of stored energy to a hazardous energy level is possible, verification of isolation will be continued until the maintenance or servicing is complete.

Release stored energy (capacitors, springs, elevated members, rotating fly wheels, and hydraulic/air/gas/steam systems) must be released or restrained by grounding, repositioning, blocking and/or bleeding the system.

3.8.6 Verification of Isolation (Test)

Prior to starting work on machines or equipment that have been locked or tagged out, the authorized employees will verify that isolation or de-energization of the machine or equipment have been accomplished.

After assuring that no employee will be placed in danger, test all lock and tag outs by following the normal start up procedures (depress start button, etc.).

Caution: After Test, place controls in neutral position.

3.8.7 Extended Lockout - Tagout

Should the shift change before the machinery or equipment can be restored to service, the lock and tag out must remain. If the task is reassigned to the next shift, those employees must lock and tag out before the previous shift may remove their lock and tag.

3.9 SOP: Release from LOCKOUT/TAGOUT

Before lockout or tagout devices are removed and the energy restored to the machine or equipment, the following actions will be taken:

1. The work area will be thoroughly inspected to ensure that nonessential items have been removed and that machine or equipment components are operational.
2. The work area will be checked to ensure that all employees have been safely positioned or removed. Before the lockout or tagout

devices are removed, the affected employees will be notified that the lockout or tagout devices are being removed.

3. Each lockout or tagout device will be removed from each energy isolating device by the employee who applied the device.

3.10 SOP: LOTO Procedure for Electrical Plug-Type Equipment

This procedure covers all Electrical Plug-Type Equipment such as Battery Chargers, some Product Pumps, Office Equipment, Powered Hand Tools, Powered Bench Tools, Lathes, Fans, etc.

When working on, repairing, or adjusting the above equipment, the following procedures must be utilized to prevent accidental or sudden startup:

1. Unplug Electrical Equipment from wall socket or in-line socket.
2. Attach "Do Not Operate" Tag and Plug Box & Lock on end of power cord.

An exception is granted to not lock & tag the plug if the cord & plug remain in the exclusive control of the Employee working on, adjusting or inspecting the equipment.

3. Test Equipment to assure power source has been removed by depressing the "Start" or "On" Switch.
4. Perform required operations.
5. Replace all guards removed.
6. Remove Lock & Plug Box and Tag.
7. Inspect power cord and socket before plugging equipment into power source. Any defects must be repaired before placing the equipment back in service.

NOTE: Occasionally used equipment may be unplugged from power source when not in use.

3.11 SOP: LOTO Procedures Involving More Than One Employee

In the preceding SOPs, if more than one employee is assigned to a task requiring a lock and tag out, each must also place his or her own lock and tag on the energy isolating device(s).

3.12 Group Lockout

In the event that more than one department is working under a lockout/tagout operation, each department shall have separate colored locks.

3.13 SOP: Management's Removal of Lock and Tag Out

Only the employee that locks and tags out machinery, equipment or processes may remove his/her lock and tag. However, should the employee leave the facility before removing his/her lock and tag, the Trades Supervisor may remove the lock and tag after making every attempt possible to contact that employee. The Supervisor must be assured that all tools have been removed, all guards have been replaced and all employees are free from any hazard before the lock and tag are removed and the machinery, equipment or process are returned to service. Every attempt at notification of the employee who placed the lock is required prior to lock removal.