HAZARDOUS ENERGY CONTROL PROGRAM

<u>"LOCKOUT"</u>

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INDEX

PURPOSE and SCOPE

Effective hazardous energy control procedures will protect employees during machine and equipment servicing and maintenance where unexpected energization, start up or release of stored energy could occur and cause injury. As well as while working on or near exposed de-energized electrical conductors and parts of electrical equipment. Hazards being guarded against include being caught in, being crushed in, being struck by, being thrown from, or contacting live electrical circuits and parts.

This procedure will attempt to ensure that machines and equipment are properly isolated from hazardous or potentially hazardous energy sources during servicing and maintenance. While any employee is exposed to contact with parts of fixed electrical equipment or circuits that have been de-energized the circuits energizing the parts shall be locked out in accordance with the requirements of Federal Standard 29 CFR 1910.1147.

ENFORCEMENT

It is the primary concern of R.W. LaPine, Inc. to maintain a safe working environment for employees. It is vital that the Lockout Procedures that have been established are used and complied with. If an employee fails to follow Lockout Procedures, disciplinary action will be taken as outlined in the R.W. LaPine, Inc.'s "Safety Program".

DEFINITIONS:

AUTHORIZED EMPLOYEE:

A person who locks out machines or equipment in order to perform servicing or maintenance on that machine or piece of equipment. An affected employee becomes an Authorized employee when that employee's duties include performing servicing or maintenance that exposes him/her to potentially hazardous energy.

AFFECTED EMPLOYEE:

An employee whose job required him/her to operate/use a machine or piece of equipment, or work in an area in which servicing or maintenance is performed under lockout.

OTHER EMPLOYEE:

An employee whose work operations are or may be in an area where energy control procedures may be utilized.

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, a disconnect switch, a line valve, a block, and any similar device used to block or isolate energy.

ISOLATION BOX:

Is a box that a plug end may be placed into and locked, ensuring that it is incapable of being plugged back into energy source.

TAG OUT ONLY SHALL NOT BE PERMITTED:

All equipment must be locked out.

RULES

Locks, or other hardware which meet the requirement defined in 1910.147 C (5) (ii) shall be provided by R.W. LaPine, Inc.

Lockout devices shall be singularly identified. They shall be the only devices used for controlling energy and shall not be used for other purposes.

Obtaining Locks:

1. All Job-Site employees shall be assigned locks, and tags.
2. All other employees shall obtain locks from their Shop Foreman when needed.

All machines/equipment shall be locked out to prevent against accidental or inadvertent operation when such operation could cause injury to personnel. Lockout will also apply when working on or near exposed de-energized electrical circuits or parts.

No employee shall attempt to operate any switch, valve, or other energy-isolating device that is locked out.

The employee who applied the device shall be the only one to remove each lockout device. (Exception See: Removal of Lockout Devices)

LOCKOUT PROCEDURES and TECHNIQUES

1. Preparation for Shutdown:

In preparation for lockout and initial survey must be made to locate and identify all energy isolating devices to be certain which switch, valve, or other energy isolating devices apply to the machine/ equipment to be locked out. More than one energy source may be involved. Also, the Authorized or Affected employees must know the type and magnitude of the energy to be controlled, and the methods or means to control the energy.

Note: Potential energy sources may include: electrical, pneumatic, hydraulic, process lines, chemical lines, gravity, steam, and springs or other equipment under tension.

2. Machine or Equipment Shutdown:

All affected employees shall be notified that a lockout system is going to be utilized and the reason for it, before the controls are applied.

If the machine or equipment is operating, shut it down by normal stopping procedures.

3. Machine or Equipment Isolation:

Physically locate and operate the switch, valve, or other energy isolating devices so that the equipment is isolated from its energy sources and apply adequate hardware.

4. Lockout Device Application:

Authorized employees shall lockout the energy isolating devices with a lock. This locking device shall be applied so that it will hold the energy isolating devices in a neutral or off position.

LOCKOUT PROCEDURES and TECHNIQUES, (Continued)

5. Stored Energy:

All stored or residual energy in rams, flywheels, springs, pneumatic, or hydraulic systems, etc. shall be blocked or dissipated. If there is a possibility of re-accumulation of stored energy, verification of the isolation must be continued until servicing or maintenance is completed.

6. Verification of Isolation:

Prior to starting work on machines or equipment that has been locked out. And ensuring that no personnel are exposed, the authorized employee shall operate the normal operating controls to verify that the machine or equipment has been de-energized and will not operate.

Caution: Return operating controls to the Neutral or Off position after the test.

The machine or equipment is now locked out. Servicing or Maintenance may now begin.

REMOVAL OF LOCKOUT DEVICES

After the servicing and/or maintenance is completed and before the lockout devices are removed and energy restored, the Authorized employee shall do the following:

1. Check the machine to be sure it is operationally intact, tools have been removed, and guards have been replaced.

2. Check to be sure all employees are safely positioned.

3. Notify all affected employees that locks are going to be removed and the machine is ready for operation.

4. Remove the locks and reenergize the machine/equipment.

If the Authorized employee who applied the lock is not available, the Shop Foreman or Job Site Foreman shall take the following steps:

1. Verify that the Authorized employee who locked out the equipment is not on the job site.

2. Attempt to contact the authorized employee to inform them that their lock is being removed from the machine.

3. Remove the lock.

4. Make sure the employee is notified that their lock has been removed prior to them resuming work at the job site.

In situations in which lockout devices must be temporarily removed from the isolating device and the machine or equipment energized to test or position the machine, equipment, or component, the following sequence of actions will be followed.

1. Clear the machine or equipment of tools and materials.

2. Remove employees from the machine or equipment.

3. Remove the lockout devices.

4. Energize and proceed with testing or positioning.

5. De-energize all systems and reapply energy control measures.

GROUP LOCKOUT

If more than one individual is required to lockout machines/equipment (Group Lockout), the following procedures shall be implemented to provide protection to all employees.

1. The Shop Foreman or Job Site Foreman will be responsible for the number of people working under the protection of the group lockout device in their area. The Shop Foreman or Job Site Foreman will ascertain the exposure status of the individual members participating in the group lockout to ensure continuity of protection for each individual. In addition the Shop Foreman or Job Site Foreman will be responsible for notifying affected employees before and after lockout procedures are performed.

2. Authorized employees shall place their own lockout device on the energy-isolating device.

3. When an energy-isolating device cannot accept multiple locks, a multiple lockout system must be used.

SHIFT or PERSONNEL CHANGES

If a lockout procedure will extend into the following shift. Before the Authorized employee whose shift ended can removed their lock, the on-coming shift must apply their lock. After the on-coming shift has placed their lockout devices, the ending shift employee may then remove their lock. By doing so will keep the lockout continuous and enforce.

OUTSIDE Contractor's

If outside contractors perform servicing or maintenance that requires lockout, the Shop Foreman or Job Site Foreman shall take the following steps.

1. Inform the outside contractor of R.W. LaPine, Inc.'s lockout program.

2. Advise the contractor that lockout procedures MUST be followed when working within this facility. Verify that contractor has lockout devices, such as locks and tags.

CORD and PLUG EQUIPMENT

Employee's servicing cord and plug equipment may not have to physically lockout the plug end under the following condition.

1. The employee has exclusive control over the plug end, i.e. Plug in pocket or over top of machine.

2. The servicing is continuous from start to finish; meaning the employee never left the machine unattended.

TRAINING

1. Authorized Employees:

Shall receive the following training:

A. Recognition of hazardous energy sources.

B. Types and Magnitude of hazardous energy in the workplace.

C. Methods, devices, and procedures used to lockout, verify lockout, and otherwise control hazardous energy on all pieces or types of equipment, including cord and plug connected equipment.

D. Procedures for removing locks and returning a machine to operation.

E. Transfer of lockout responsibility.

F. Group lockout procedures.

2. Affected and all Other Employees:

Shall receive the following training:

A. Recognize when energy control procedures are being implemented.

B. Understand the purpose if the procedures and the importance of not attempting to start up or use the machine/ equipment that has been locked out.

3. Retraining of Authorized or Affected Employees:

Employees shall receive retraining in proper application of lockout procedures when there is a change in the following:

A. Job assignment, which exposes an authorized employee to a new hazard, or lockout procedure.

B. Machines, equipment, or processes that present a new hazard or require modified lockout procedures.

C. Energy control procedures for a new piece of equipment.

D. Or when it becomes known that an employee incorrectly performs lockout procedures.

Retraining will re-establish employee proficiency in lockout, and ensure that employee is knowledgeable of new or revised procedures.

4. Training documentation:

A. All training and/or re-training shall be documented, signed and certified.

PERIODIC INSPECTIONS

An inspection of the energy control procedures will be conducted annually and will be certified.

The inspection shall include a review of lockout responsibilities with each individual authorized to lockout the machine/equipment.

Any deviations or inadequacies identified shall be immediately addressed.

PART 40. ELECTRICAL SAFETY-RELATED WORK PRACTICES

Only qualified persons may work on electric circuit parts or equipment that has not been de-energized under lockout.

Qualified Person:

That is those who are permitted to work on or near exposed energized parts. They shall at a minimum be trained in, and familiar with, all the following:

1. The skills and techniques necessary to distinguish exposed live parts from other parts of electric equipment.

2. The skills and techniques necessary to determine the nominal voltage of exposed live parts.

Such persons shall be trained to work safely on energized circuits, and shall be familiar with the proper use of all of the following:

1. Special precautionary techniques.

2. Personal protective equipment.

3. Insulating and shielding material.

4. Insulating tools.

5. Testing equipment.

Further; an employee shall not enter a space that contains exposed energized parts, unless illumination is provided to enable the employee to perform the work safely.

Where lack of illumination or an obstruction precludes the observation of the work to be performed, an employee shall not perform tasks near exposed energized parts. An employee shall not reach blindly into areas that may contain energized parts.

Troubleshooting:

In cases like troubleshooting where the energy sources must remain on in order to do your task. You should never place yourself in a Hazardous Position. Use work methods and equipment that will prevent injury or reduce its extent in the event of accidental contact.

For example:

1. While working around “live” electrical circuits.

    A. Remove all rings, watches, and other jewelry.

    B. Use insulated tools.

    C. Have proper test equipment available.

    D. Remember, if in doubt, lock it out.

Blocking, pinning, and physical disconnection may be needed to secure machine components in order to complete troubleshooting safely.

Never climb into or on energized equipment without taking proper safety measures. Energy sources not needed for troubleshooting must be locked out.

Interlock devices are NOT a means of lockout.