

1. Purpose:

1.1 The purpose of this procedure is to outline the appropriate lockout/tagout (LOTO) procedures for equipment that is powered by, or capable of storing, hazardous energy.

2. Scope:

- **2.1** The objective of this program is to protect personnel from injury when lockout of energy is required to ensure the safety of those working in or near danger zones. Work will not begin until all forms of hazardous energy are identified and controlled to a zero hazardous energy level.
 - **2.1.1** Lockout is required if the work being done requires a person to place any part of their body into an area where a danger zone exists. Locks and/or lockout devices must be attached to the energy control point to keep the hazardous energy from being reintroduced to the equipment while work is being conducted.
 - **2.1.2** There may be multiple energy control points that affect work in a danger zone; each point must be identified and controlled.
 - **2.1.3** The lockout must provide complete energy isolation, without possible override.
 - Push-buttons, selector switches, interlocks, emergency shutoffs, software controls and other control circuit type devices are not energy control points and cannot be used to fulfill this program.
 - **2.1.4** Work will not begin until all forms of hazardous energy are identified and controlled.
 - **2.1.5** All employees and contractors must have individual locks and keys such that the individual is the only person who possesses the key.
 - **2.1.6** Supervisory locks intended to protect a group of workers are not allowed. Employees working as a group must each have their own locks and utilize either a lock box or multiple user-locking devices.
 - **2.1.7** Any person entering any danger zone, regardless of length of time, must apply his or her own lock and tag to the energy-isolating devices for that danger zone.
 - **2.1.8** In situations where it is impossible to install a lock or apply a locking device, contact EHS manager for consultation and direction.

| Written By: | | Approved By: | Date: | Page 1 of 7 |
|-------------|--|--------------|--------|-------------|
| JLJ | | EMDC | 1/1/17 | |
| | | | | |



- **2.1.9** This program does not apply to electric equipment for which electrical energy is the only energy source and it can be isolated and controlled by unplugging the equipment from the outlet and keeping the plug under the exclusive control of the employee performing the servicing or maintenance.
- **2.1.10** When the person who applied the lockout is not available to remove it, the abandoned lock procedure must be utilized. The removal of a lockout device has serious consequences and must not be taken lightly; refer to the program section Non-Routine Removal of a Lockout/Tagout Device.

3. Responsibility:

- **3.1** The Environmental Health and Safety (EHS) Manager is the program coordinator, with overall responsibility for the program, including reviewing and updating this plan as necessary.
- **3.2** The EHS Manager and/or Supervisors are responsible for implementation of this procedure and training of all employees with regard to this procedure.

4. Employee Classification:

4.1 Authorized Employee

- **4.1.1** An employee who is trained and who locks out or tags out a machine or piece of equipment in order to perform servicing or maintenance on that machine or piece of equipment under this program. Duties of an "Authorized" employee include:
 - Completing all training required to be authorized to perform lockout/tagout on specific equipment, tool(s), or machinery under this program.
 - Performing lockout/tagout activities which are in conformance with this program.
 - Retaining control of the equipment, system, or machinery while a lockout/tagout is in progress and works only under their own lock and tag.
 - Maintaining lockout/tagout hardware and tags in good condition.

| Written By: | Approved By | : Date: | Page 2 of 7 |
|-------------|-------------|---------|-------------|
| JLJ | EMDC | 1/1/17 | |



4.2 Affected and Other Employees

4.2.1 All employees whose job requires them to operate/use a machine or piece of equipment on which servicing or maintenance activities are being performed under lockout/tagout, or whose job requires them to be in an area in which lockout/tagout is being used, are considered "Affected Employee" or "Other Employee." They are not authorized to implement lockout/tagout procedures.

5. References:

5.1 29 CFR 1910.147 The Control of Hazardous Energy (Lockout/Tagout)

6. Procedure:

6.1 Preparing equipment for lockout/tagout.

- **6.1.1** The Authorized Employee shall:
 - Review the machine-specific lockout/tagout procedure (Form #013 Machine-Specific Energy Identification Form) to identify all forms of hazardous energy.
 - Identify the area of work and the lockout/tagout restriction zone.
 - Identify the proper control point of each source of hazardous energy.
 - Obtain lock(s), tag(s), and locking and/or blocking devices.
 - Notify workers of intent to de-energize. Affected Employees must be notified by the Authorized Employee prior to the application of any lockout or tagout device.
 - De-energize and dissipate any residual energy (springs, hydraulic pressure, water pressure, steam, flywheels, gravity, etc.) by blocking, bleeding, or other appropriate means.
 - Apply lockout devices to each energy source. Once the lockout device has been applied, the key shall be removed and remains exclusively in the Authorized Employee's possession.
 - Where more than one Authorized Employee will be working on a machine or piece of equipment, each Authorized Employee must apply their own lock or tag to the energy-isolation device. The key for each lock must be in the possession of the employee who applied the lock.

| Written By: | | Approved By: | Date: | Page 3 of 7 |
|-------------|--|--------------|--------|-------------|
| JLJ | | EMDC | 1/1/17 | |



- Confirm the equipment has been de-energized by initiating a normal startup procedure. Ensure that no Authorized or Affected Employees are in the restricted area prior to attempting the restart of the equipment. Do not enter the machine until it is confirmed that all energy sources have been locked out.
- When verification is complete, return the machine to the neutral or OFF position.
- Wear the appropriate Personal Protective Equipment (PPE).
- Begin work.

6.2 Restoring the equipment to normal operation when service is complete.

6.2.1 The Authorized Employee shall:

- Inspect the work area to ensure that all nonessential items, tools, etc., have been removed from the danger zone.
- Check that all the guarding and safety controls have been properly replaced.
- Notify Affected Employees and ensure all personnel are in a safe location prior to reenergizing the equipment.
- Remove locks, tags, and blocking devices.
- Reenergize the equipment/system according to the start-up procedures specific to each piece of equipment.
- Confirm the system is operating properly and safely before returning control of the equipment back to any Affected Employees.
- Remove and clean, or dispose of PPE.
- Check locks, tags, and lockout devices for damage or cleaning needs. Replace as needed.

6.3 Shift Changes

- **6.3.1** When work involving lockout/tagout extends beyond a single shift, the Authorized Employee going off-shift shall not remove their lock and tag until an Authorized Employee coming on-shift has placed their lock and tag on the energy-isolating device(s).
- **6.3.2** When equipment is to be taken out of service for an extended period of time, an Authorized Group Leader must also place a lock and tag on the energy-

| Written By: | Approved By: | Date: | Page 4 of 7 |
|-------------|--------------|--------|-------------|
| JLJ | EMDC | 1/1/17 | |



isolating device(s) until all work is completed and all other Authorized Employees' locks and tags have been removed.

6.3.3 At no time should the machine being worked on be without the protection of a lockout device.

6.4 Non-Routine Removal of a Lockout/Tagout Device

- **6.4.1** When the Authorized Employee who applied the lock and any associated tags is not available to remove them, the devices may be removed by the Authorized Employee's Supervisor in accordance with the process described below:
 - The Authorized Employee's Supervisor(s) must verify that any Authorized Employee who applied lock(s) and associated tag(s) is not on duty and that their work is no longer in progress. All reasonable efforts will be made to contact the Authorized Employee(s) to discuss the planned removal of their lock(s) and determine if the Authorized Employee(s) have any safety concerns with removal of their lock(s).
 - An Authorized Employee/Supervisor must return the equipment to service and notify the Affected Employees that service or maintenance is completed and the equipment is ready for use.
 - When the Authorized Employee(s) whose lock(s) were removed returns to work, their Supervisor(s) must inform them that their lock(s) and tag(s) were removed.

7. Employee Training

7.1 Authorized Employees and Supervisors

- **7.1.1** DeLong's, Inc. has developed and will provide lockout/tagout training on the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, the methods and means available for energy isolation and control, and removal of energy-control devices.
- 7.1.2 Supervisors must supplement this general training with equipmentspecific training for Authorized Employees under their direction.
- **7.1.3** Equipment-specific training will be accomplished by presenting applicable written procedures to Authorized Employees, verifying that they understand

| Written By: | | Approved By: | Date: | Page 5 of 7 |
|-------------|--|--------------|--------|-------------|
| JLJ | | EMDC | 1/1/17 | |
| | | | | |



the requirements of the procedure, and observing correct performance of the lockout/tagout procedure(s).

7.2 Affected and Other Employees

- **7.2.1** Affected and Other Employees working in areas where lockout/tagout may be used will be trained in the purpose of the lockout/tagout program, identification of locks and tags, and restrictions these impose on equipment operation.
- **7.2.2** Affected and Other Employees will be trained on the procedure and instructed never to attempt to restart or reenergize a machine that has been locked out or tagged out.

7.3 Retraining

- **7.3.1** All employees will receive annual refresher training.
- **7.3.2** Retraining is required if:
 - There is a change in task assignment that involves use of different lockout/tagout procedures for which the Authorized Employee has not been previously trained.
 - There is a change in the machine, equipment, or processes that presents new hazards.
 - There is a change in the energy-control procedures.
 - The Supervisor has reason to believe, or determines through a periodic inspection or observation, that an Authorized or Affected Employee is performing the energy-control procedures inadequately or has deviated from or lacks sufficient knowledge of established procedures.

7.4 Record Retention

7.4.1 All training records, including employee names and training dates, will be maintained in the EHS Manager's Office.

8. Program Review

8.1.1 All lockout/tagout procedures will be reviewed at least annually.

| Written By: JLJ | Approved By: EMDC | Date: 1/1/17 | Page 6 of 7 |
|--------------------|----------------------|--------------|-------------|
|--------------------|----------------------|--------------|-------------|



- **8.1.2** The procedure will be reviewed for adequacy and completeness by an Authorized Employee who does not regularly use the machine/equipment-specific lockout procedure, a Supervisor, or the EHS Manager.
- **8.1.3** If any deviations or inadequacies are identified, the EHS Manager will take all necessary steps to update the procedure.
- **8.1.4** The annual evaluation will include a review of each machine's/equipment's Lockout/Tagout procedure to determine if there have been any changes that need to be updated in the procedure.

9. Outside Contractors

- **9.1** Whenever outside personnel are contracted to repair machines where lockout/tagout is required, they will be informed of the energy-control procedures for each machine by the EHS Manager, Supervisor, or an Authorized Employee.
- **9.2** All necessary safety information will be communicated to the contractor before work commences.
- **9.3** If needed, an authorized employee will assist the contractor in locking out the equipment per DeLong's, Inc.'s machine-specific procedure.

| Written By: | | Approved By: EMDC | Date: 1/1/17 | Page 7 of 7 |
|-------------|--|----------------------|--------------|-------------|
| JLJ | | EMDC | 1/1/1/ | |