1.0 Policy

Work activities associated with energized equipment or processes shall be controlled prior to initiating by verifying a zero energy state.

2.0 Purpose

To establish safe practices associated with equipment or processes that involve hazardous energy sources.

3.0 Scope

Applies to all Sunbelt Controls work sites that perform activities such as, but not limited to, erecting, installing, constructing, repairing, adjusting, inspecting, cleaning, operating or maintaining equipment/machines/processes whereby hazardous energy sources are involved.

Note (special exception to policy): equipment/machines that have an electrical plug as the sole hazardous energy source and can reach a zero energy state by simply being unplugged are exempt from this policy, as long as control of the plug can be maintained at all times.

4.0 Definitions

Affected Employee – any Sunbelt Controls employee who is not an Authorized Employee but is required to work in the area of equipment / machine / processes where Lockout procedures are being implemented.

Authorized Employee – any Sunbelt Controls employee who utilizes Lockout procedures on equipment/machines/processes

Control Mechanism – any lock or combination of locks, multi-lock hasps and/or other types of special mechanisms (chains, valve covers, breaker covers, etc.) applied to an energy-isolating device to ensure that it cannot be moved / operated.

Energy Isolating Device – a mechanical device that physically prevents the transmission or release of hazardous energy, including, but not limited to the following: a manually operated electrical circuit breaker; a disconnect switch; line valve; slide gate; similar device used to block/bleed or isolate energy.

Hazardous Energy Source – any type of energy that could injure anyone working on or near the equipment / machine / process if released as a result of work activities; examples of hazardous energy sources include, but are not limited to the following: electrical; hydraulic (fluid/liquids); pneumatic (air); chemical; radiation; thermal; mechanical (from stored energy, like in flywheels and springs); and mechanical (from gravity).

Lockout – the placement of a control mechanism on an energy-isolating device that ensures that the equipment / machine / process being worked on cannot be operated / initiated until the control mechanism is removed.

Other Personnel – non- Sunbelt Controls personnel or visitors to any work area where Sunbelt Controls authorized employees are utilizing processes outlined in this Policy.

Operation Device means any switch, button, leaver, valve, etc. that is expressly intended for the starting or initiation of the equipment / machine / process.

Zero Energy State means the equipment / machine / process has been purged of and blocked from hazardous energy sources – that is no hazardous energy is present.

5.0 Requirements

5.1 Identifying Applicable Equipment/Machines/Processes

The following shall be documented:

- All owned and common or typical equipment / machine / processes where this Policy applies
- All owned and common/typical energy isolating devices for applicable procedures related to the identified equipment /machine / processes
- All applicable lockout mechanisms necessary for applicable energy control procedures related to the identified equipment / machine / processes
- All applicable energy control procedures related to the identified equipment / machine / processes

This information shall be developed by the Safety Manager, posted on / near the machine and kept on file, utilized within the training required for Authorized employees, and updated as equipment/machines/processes and lockout mechanisms are introduced. A sample format is found in Appendix 16-A (Energy Control Procedure Form).

5.2 Training

All Training is required to be documented and certified by employee's supervisor or Safety Training Manager.

5.2.1 Initial Training

Each affected employee shall receive training during orientation on the procedures of this Policy Section for the expressed purpose of ensuring awareness of the prohibition of removing control mechanisms and / or operation / initiation of applicable equipment/machines/processes.

Each authorized employee shall receive special training in the recognition of hazardous energy sources, the specific and/or common equipment / machines / processes within respective work areas, types of necessary control mechanisms, and the procedures of this policy.

5.2.2 Annual Re-fresher Training

Both affected and authorized employees shall receive annual re-training of the same nature identified in Initial Training.

5.2.3 Other Re-Training

Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or processes that present a new hazard, or when there is a change in the energy control procedures.

Any affected or authorized employee shall be immediately re-trained if their actions during related work activities violated any portion of this Policy.

5.3 Lockout Procedures (in order of action)

5.3.1 Preparation

Authorized employees shall verbally notify all affected employees (Sunbelt Controls employed or anyone considered as Other Personnel) of the procedures to be used **before** commencing other work activities.

The supervisor or authorized employee in-charge of the operation must ascertain the exposure status of individual group members and ensure that all employees who have been exposed to a potential hazard are included in the lock out procedure and shall apply there own locks to the hazard control point.

5.3.2 Lockout Application

Perform the actions **before** commencing other work activities, in the following order:

- Identify all known operation devices for the equipment / machine / process, and commit all of them to the 'off' or 'neutral' position
- Identify all known energy controlling devices for the equipment / machine / process, commit all of them to the 'off' or 'neutral' position, and utilize a lockout device to secure them in the 'off' or 'neutral' position
- Shutdown and neutralize all sources in accordance with procedures appropriate for the equipment / source.
- Ensure hazardous energy source has been relieved, disconnected, restrained, and otherwise rendered safe.

Note: If the proper lockout procedures or a hazardous energy source is unknown, authorized employees shall not conduct further work activities and shall immediately contact their supervisor for assistance/instructions on proceeding.

- Visually inspect the equipment / machine / process and / or use electronic or mechanical means to verify that a zero energy state has been reached.
- Attention must be paid to potential storage of energy or potential for re-accumulation. These sources must be blocked out to prevent release of said energy.
- Ensure that all affected and authorized employees are clear from the equipment / machine / process, then try to activate the equipment / machine / process by initiating all identified operation devices to ensure that a zero energy state has been reached. Apply additional lockouts to any energy controlling devices having unprotected energy sources and repeat this procedure point until a zero energy state is obtained. Proceed with the

required work activities for the equipment / machine / process when the zero energy state is obtained
- If a zero energy state cannot be reached, contact your supervisor for instructions

5.3.3 Release From Lockout

Authorized employees shall visually inspect the equipment / machine / process to ensure that all personnel and tools have been cleared and / or removed.

Then, only the authorized employee who placed the lockout mechanism into use can remove it. (reference sub-section 5.5 of section sixteen [16] for more information on Emergency Lock Removal Procedures)

5.4 Testing/Diagnosis/Re-positioning Procedures During Lockout

Perform the actions, in the following order:

- Clear the equipment / machine / process of tools, materials and personnel
- Remove the applicable lockout mechanisms from the energy isolating device
- Energize the applicable portion of the equipment / machine / process
- Proceed with the test, diagnosis and re-positioning
- De-energize the equipment / machine / process
- Re-apply the applicable lockout mechanisms to the energy isolating device
- Re-test operation devices to ensure a zero energy state is in place
- Continue work and repeat this procedure as necessary

5.5 Emergency Lock Removal Procedures

Appendix 16-B (Lock Removal Procedure) shall be utilized for documentation. Every effort shall be made to personally contact authorized employees prior to their lock being removed.

The direct supervisor of an authorized employee is the first person allowed to remove their lock. If the applicable supervisor is not physically capable, only another authorized employee can be provided with the authority, directly by the applicable supervisor only.

In either event, the direct supervisor of the authorized employee who originally placed the lockout mechanism(s) to be removed shall inform that employee of the removal BEFORE that employee returns to that work area. This communication shall be documented on the form located under Appendix 16-A. Messages (oral, written, or forwarded) are prohibited.

5.6 Lockout Documentation (service employees only)

Documentation of lockout mechanism use (types of energy controlled and how) shall be maintained on the service ticket paperwork.

5.7 Lockout Control Mechanisms

5.7.1 Locks

Each authorized employee shall be issued a lock (or locks) individually keyed and manufactured of a standard size, shape and color. The type of lock to be issued shall be identified in an Addendum to this manual section.

There shall be a list of employees and corresponding lock numbers maintained at the work site. The Safety Manager or designee shall maintain such lists for the Service Department.

5.7.2 Multi-lock Hasps

A multi-lock hasp shall be utilized when more than one authorized employee is performing work on the equipment / machine / process.

When a traditional multi-lock hasp will not provide enough attachment points for all authorized employees, another method shall be established (e.g. lockout box, lockout cabinet, etc.) in the Addendum to this policy.

5.7.3 Other Specialized Equipment

Tags (when necessary) shall be durable, standardized in type and have areas to indicate the employee's name and contact information. These tags shall be established in Addendum to this Policy.

5.8 Multi-Contractor Site / Subcontractor

Authorized employees shall inform the supervision of other employers in a multiemployer work site of all aspects covered by this manual section.

Subcontractors for Sunbelt Controls are required to meet or exceed all aspects covered by this manual section.

5.9 Policy Review and Certification

Annually, this manual section (and applicable addendums and related training programs) shall be reviewed and documented (certified) by the Safety Manager for updating and verifying the use of these procedures.

Inspections verifying that these procedures are being followed shall be a component of this review.

6.0 References

OSHA 29 CFR 1910.147
OSHA 29 CFR 1926.417