UAH

The University of Alabama in Huntsville

LOCKOUT/TAGOUT PROGRAM

The Office of Environmental Health and Safety
Facilities and Operations Department
Huntsville, Alabama 35899

Office of Environmental Health and Safety
July 2006

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PREFACE

The University of Alabama in Huntsville initially developed the Lockout/Tagout Program for use by Facilities and Operations personnel and University contractors in 1994 for the control of hazardous energy. The implementation and management of strong Lockout/Tagout Programs are essential to insure the safety of personnel who work with or near equipment or machinery in which Lockout/Tagout procedures are employed. The utilization of The UAH Lockout/Tagout Program will assist divisions of Facilities and Operations in obtaining these goals.

THE UNIVERSITY OF ALABAMA IN HUNTSVILLE

POLICY STATEMENT - HAZARDOUS ENERGY CONTROL

The University of Alabama in Huntsville (UAH) is committed to full compliance to federal, state, and local laws pertaining to the control of hazardous energy and the safety of employees, students and contractors of the University. The University's Office of Environmental Health and Safety has overall responsibility for development and management of the Lockout/Tagout Program. Divisions, colleges, departments, or other units may develop their own policies pertaining to the control of hazardous energy; however, they must be at least as stringent as the UAH program and are subject to review by the Director of the OEHS.

The Director of the OEHS has overall responsibility for monitoring compliance with federal, state, and local regulations and is responsible for identifying units within the University that may not be complying fully with regulations. The director or his/her appointee is responsible for providing notification of non-compliance to the units involved and for providing consultation regarding changes necessary to achieve compliance with regulations. When the unit fails to make necessary changes to achieve compliance, the director is responsible for reporting such non-compliance to the vice-president who has administrative responsibility over the unit.

EXECUTIVE SUMMARY

The University of Alabama in Huntsville (UAH) has the responsibility for insuring that its employees are protected from the hazards of uncontrolled energy. The development of the UAH Lockout/Tagout Program established the University's commitment to the welfare of its employees and the other members of the University community who may be affected by hazardous energy sources. The annual review ensures the Lockout/Tagout Program is current and supports the University's goal of controlling hazardous energy sources. The Occupational Safety and Health Administration (OSHA) has established uniform minimum requirements to ensure that the hazards of uncontrolled energy in the workplace are evaluated. These requirements are found in 29 CFR 1910.147 and the Office of Environmental Health and Safety uses these during the establishment and evaluation of the UAH Lockout/Tagout Program.

The UAH Lockout/Tagout Program contains guidelines to be used in UAH facilities by UAH employees and contractors. The UAH Facilities and Operations Department will ensure that all machinery meeting the criteria of lockout/tagout within UAH facilities is evaluated and that all information, training programs, and lockout/tagout procedures are implemented. The Office of Environmental Health and Safety is responsible for briefing employees of the general requirements of the OSHA Lockout/Tagout Standard and the elements of the University program. The OEHS is also responsible for auditing individual department's lockout tagout procedures. The supervisors of affected and authorized employees are responsible for training on machine specific hazards and lockout/tagout procedures prior to the employee beginning related activities and insuring that lockout tagout procedures and devices are provided to authorized employees. Included in the appendices are templates for preparing hazardous energy control procedures. It is the authorized employee's responsibility to use the lockout/tagout devices and follow the appropriate procedures.

DISCLAIMER

This Lockout/Tagout Program was prepared for use on The University of Alabama in Huntsville (UAH) campus. It is provided as a means of presenting the regulations and standards pertaining to the control of hazardous energy (lockout/tagout) and as a guideline for obtaining compliance. Neither the author nor The University of Alabama in Huntsville warrants its completeness or correctness. Any discrepancies noted should be brought to the attention of the Director of the Office of Environmental Health and Safety.

1.0 PURPOSE AND OBJECTIVES

Approximately three million workers in the United States, on a daily basis, face extreme risk from uncontrolled energy when servicing machinery. Serious injury or death can be the result. Typical nonlethal injuries include fractures, lacerations, contusions, amputations, puncture wounds, electric shock, and falls. The average lost time for these types of injuries is approximately 24 days.

The Occupational Safety and Health Administration (OSHA) estimates that approximately 120 fatalities, approximately 28,000 serious injuries, and 32,000 minor injuries could be prevented if proper lockout/tagout procedures at job sites are initiated and followed. The OSHA Control of Hazardous Energy Sources Standard, 29 CFR 1910.147, "The Control of Hazardous Energy (Lockout/Tagout)" establishes uniform requirements to ensure that the hazards of uncontrolled energy in U.S. workplaces are evaluated, that safety procedures are implemented, and that the proper hazard information is transmitted to all affected workers.

The University of Alabama in Huntsville (UAH) has the responsibility to ensure that its employees are protected from the hazards of uncontrolled energy. The OSHA standard provides guidance for the servicing and maintenance of machines and equipment in which the "unexpected" energization or start up of equipment or release of stored energy can cause injury to employees. The Facilities and Operations Department will ensure that all machinery meeting the criteria for lockout/tagout within UAH facilities is evaluated. Further information and training programs and lockout/tagout procedures will be implemented.

2.0 MAJOR ELEMENTS OF THE LOCKOUT/TAGOUT STANDARD

The Lockout/Tagout Program is intended to address comprehensively the following elements:

1) Written Lockout/Tagout (Energy Control) Procedures

2) Lockout/Tagout Training

3) Evaluation/Identification of Potential Uncontrolled Energy Sources
   a) Machine/Equipment Inventory and Energy Audit
   b) Periodic inspections

4) Non-Employee (Contractor) Program

5) Special Situations

6) Exceptions

The UAH Office of Environmental Health & Safety (OEHS) will have overall responsibility for administering the Lockout/Tagout Program. All amendments and additions will be reviewed and accepted by the Director and/or his/her designee. UAH administration has authorized the Director to halt any operation deemed unsafe and to evacuate any area determined hazardous to workers.

2.1 Written Lockout/Tagout Procedures

The Lockout/Tagout procedures will be performed in accordance with 29 CFR 1910.147 and updated as required. Even if no update is required, this document will be reviewed annually. Effective implementation of this program requires support from all levels of management and will be communicated to all Facilities and Operations employees. The scope of the Lockout/Tagout program encompasses the total workplace, regardless of the number of workers employed or the number of work shifts or alternate job sites. The UAH Lockout/Tagout program has been developed to establish the following goals and objectives:

1. Annual review and revision of the written Lockout/Tagout Program based on operational requirements or as required by the OSHA Lockout/Tagout Standard.

2. Provide a comprehensive training program for all Facilities and Operations personnel which meets or exceeds all established training requirements.

3. Provide a template for step-by-step procedures used to control hazardous energy in a machine or piece of equipment whenever servicing or maintenance is being performed.

4. Provide a written program and checklist to perform annual inspections.

5. Provide a written program containing detailed procedures on what to do when employees encounter special situations.

Each authorized employee of the Facilities and Operations Department will receive a copy of the Lockout/Tagout Program and will be instructed in all aspects of the program. Each affected employee will be informed on where to find this information and trained on aspects of the program.

The UAH OEHS will establish a program and utilize procedures for affixing appropriate lockout or tagout devices to energy isolating devices and to otherwise disable machines or equipment to prevent unexpected energization, start-up or release of stored energy in order to prevent injury to employees.

2.1.1 Energy Control Program

The UAH OEHS shall establish a program consisting of energy control procedures, employee training, and periodic inspections to ensure employee safety. This program shall include specific instructions and protocols with regard to servicing or performing maintenance on a machine or piece of equipment where the unexpected energizing, start up, or release of stored energy could occur and cause injury. Also, the program shall provide specific instructions for isolating the energy source, thus rendering the machine/equipment inoperative.

2.1.2 Lockout

If an energy-isolating device is capable of being locked out, UAH's energy control program shall utilize lockout, unless it can be demonstrated that the utilization of a tagout system will provide full employee protection.

2.1.3 Tagout

If an energy-isolating device is not capable of being locked out, UAH's energy control program shall utilize a tagout system.

2.1.4 Future Requirements

Whenever replacement or major repair, renovation or modification of a machine or equipment is performed, and whenever new machines or equipment are installed, energy isolating devices for such machines or equipment shall be designed to accept a lockout device.

2.2 Full Employee Protection when only Tagout Devices are Employed

When a tagout device is used on an energy isolating device which is capable of being locked out, the tagout device shall be attached at the same location that the lockout device would have been attached. The UAH Facilities and Operations Department shall demonstrate that the tagout program will provide a level of safety equivalent to that obtained by using a lockout program.

Lockout equivalency demonstration: In demonstrating that a level of safety is achieved in the tagout program which is equivalent to the level of safety obtained by using a lockout program, Facilities and Operations shall demonstrate full compliance with all tagout-related provisions together with such additional elements as are necessary to provide the equivalent safety available from the use of a lockout device. Additional means to be considered as part of the demonstration of full employee protection shall include, where possible, the implementation of additional safety measures such as the:

1. Removal of isolating circuit elements.

- Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint on those devices that is provided by a lock.

- When a tag is attached to an energy-isolating device, it is not to be removed without authorization of the authorized person responsible for it, and it is never to be bypassed, ignored, or otherwise defeated.

- Tags must be legible and understandable by all authorized employees, affected employees, and all other employees whose work operations are or may be in the area, in order to be effective. Non-legible or missing tags will be reported to the appropriate supervisor immediately.

- Tags and their means of attachment must be made of materials that will withstand the environmental conditions encountered in the workplace. Tags must be hand attachable and be able to withstand 50 pounds of pressure.

- Tags may evoke a false sense of security, and their meaning needs to be understood as part of the overall energy control program.

- Tags must be securely attached to energy isolating devices disallowing inadvertent or accidental detachment during use.

All training will be documented using an attendance roster, which is maintained as a permanent record. Certificates of completion will be issued to attendees. A copy of the completion certificate will be maintained as part of the employee's permanent record.

2.4 General Requirements

This instruction applies to the control of energy during servicing and/or maintenance of machines and equipment. Normal production operations are not covered. Servicing and/or maintenance which takes place during normal production operations is covered if:

1. An employee is required to remove or bypass a guard or other safety device.

2. An employee is required to place any part of his or her body into an area on a machine or piece of equipment where work is actually performed upon the material being processed (point of operation) or where an associated danger zone exists during a machine operating cycle.

2.5.1.1 Selection Criteria

Lockout/tagout devices shall be singularly identified; shall be the only devices(s) used for controlling energy; shall not be used for other purposes; and shall meet the following requirements:

1) Selected lockout and tagout devices must be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.

2) Selected tagout devices must be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible. Tagout devices must be securable by hand and must be able to withstand 50 pounds of pressure.

3) Tags must not deteriorate when used in corrosive environments such as areas where acid and alkali chemicals are handled and stored.

4) Lockout and tagout devices shall be standardized within the facility in at least one of the following criteria: Color, shape, or size, and in the case of tagout devices, print and format shall be standardized.

2.5.1.2 Removal Requirements

Lockout devices shall be designed to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.

Tagout devices, including their means of attachment, shall be designed to prevent inadvertent or accidental removal. Tagout device attachments shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of being at least equivalent to a one-piece, all-environment-tolerant nylon cable tie.

2.5.2 Identification Requirements

Lockout/tagout devices shall indicate the identity of the employee applying the device(s).

Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following: Do Not Start, Open, Close, Energize, or Operate.

2.6 Energy Control Procedures

Once a facility evaluation has been conducted, procedures shall be developed, documented, and utilized for the control of potentially hazardous energy.

The following format will be followed for each machine requiring procedures. The appropriate supervisor will be responsible for the implementation of these procedures. The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy. The means to enforce compliance shall include but not be limited to the following:

- A specific statement of the intended use of the procedure.
- Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy (manufacturer's specification will be followed whenever possible).
- Specific procedural steps for the placement, removal, and transfer of lockout devices or tagout devices and the person(s) responsible for them.
- Specific requirements for testing a machine or piece of equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures.

2.7 Energy Isolation

Only the authorized employees performing the servicing or maintenance shall perform lockout or tagout.

2.7.1 Notification of Employees

Affected employees shall be notified of the application and removal of lockout devices or tagout devices. Notification shall be given before the controls are applied and after they are removed from the machine or equipment.

2.7.2 Application of Control

The lockout and or tagout procedures shall cover the following elements and actions and shall be done in the following sequence:

1) Before an authorized or affected employee turns off a machine or piece of equipment, the authorized employee shall have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means to control the energy.

2) The machine or equipment shall be turned off or shut down using the procedures established for the machine or equipment. An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

3) All energy isolating devices required to control the energy to the machine or equipment shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s).

2.7.2.1 Lockout Device Application

Authorized employees shall affix lockout or tagout devices to each energy-isolating device.

Lockout devices, where used, shall be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.

2.7.2.2 Tagout Device Application

Tagout devices, where used, shall be affixed in a manner that clearly indicates that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

Where tagout devices are used with energy isolating devices designed with the capability of being locked, the tag attachment shall be fastened at the same point at which the lock would have been attached.

Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

2.7.3 Stored Energy

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained, and otherwise rendered safe.

2.7.3.1 Reaccumulation of Stored Energy

If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.

2.7.3.2 Verification of Isolation

Prior to starting work on machines or equipment that have been locked out or tagged out; the authorized employee shall verify that isolation and deenergization of the machine or equipment have been accomplished.

2.8 Release from Lockout or Tagout

Before lockout or tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions taken by the authorized employee(s) to ensure the following:

1) The work area shall be inspected to ensure that nonessential items have been removed and to ensure that machine or equipment components are operationally intact.

2) The work area shall be checked to ensure that all employees have been safely positioned or removed.

3) After lockout or tagout devices are removed and before a machine or equipment is started, affected employees shall be notified that the lockout or tagout device(s) have been removed.

4) The employee who applied the device shall remove each lockout or tagout device from each energy-isolating device. When the authorized employee who applied the lockout or tagout device is not available to remove it, that device may be removed under the direction of their immediate supervisor provided that the following procedure is followed:

    a) The Facilities and Operations Department shall verify that the authorized employee who applied the device is not at the facility.

    b) The Facilities and Operations Department will make all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout or tagout device has been removed.

    c) The Facilities and Operations Department will ensure that the authorized employee has this knowledge before he/she resumes work at that facility.

2.9 Testing of Machines, Equipment, or Components

In situations where lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment, or component thereof, the following sequence of actions shall be followed:

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

2) Remove employees from the machine or equipment area.

3) Remove the lockout or tagout devices as specified as part of the individual machine procedures.

4) Energize and proceed with testing or positioning.

5) Deenergize all systems and reapply energy control measures in accordance with machine procedures and continue the servicing and/or maintenance.

2.10 Shift or Personnel Changes

Specific procedures shall be utilized during shift or personnel changes to ensure the continuity of lockout or tagout protection. This includes provisions for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees to minimize exposure to hazards from the unexpected energization or start-up of the machine or equipment or the release of stored energy.

2.11 Periodic Inspections

The OEHS shall conduct a periodic inspection of the energy control procedure for each machine or piece of equipment at least annually to ensure that the procedure and the requirements of this instruction are being followed.

An authorized employee other than the one(s) utilizing the energy control procedure being inspected shall perform the periodic inspection.

Personnel authorized to evaluate lockout/tagout requirements will conduct inspections. The periodic inspection shall be conducted to correct any deviations or inadequacies identified.

2.11.1 Lockout Inspections

Where lockout is used for energy control, the periodic inspection shall include a review between the inspector and each authorized employee regarding the employee's responsibilities under the energy control procedure being inspected.

2.11.2 Tagout Inspections

Where tagout is used for energy control, the periodic inspection shall include a review between the inspector and each authorized and affected employee regarding the employee's responsibilities under the energy control procedure being inspected.

The OEHS shall certify that the periodic inspections have been performed. The certification shall as a minimum identify:

- The machine or equipment on which the energy control procedure is utilized.
- The date of the inspection.
- The employees included in the inspection.
- The person performing the inspection.

3.0 NON-COMPANY EMPLOYEE PROGRAM

The designated escort or contact shall inform visitors, contract employees, contractor personnel, and in-house representatives of the hazards of the unexpected energization or start up of the machines or equipment, or of the release of stored energy, and the lockout or tagout procedures.

4.0 SPECIAL SITUATIONS

When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.

Group lockout or tagout devices shall be used in accordance with the procedures required by this instruction governing individual procedures that shall include, but not necessarily limited to, the following specific requirements:

- Primary responsibility will be vested in an authorized employee for a set number of employees working under the protection of a group lockout or tagout device (such as an operations lock).
- Provisions will be made for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout or tagout of the machine or equipment.

- When more than one crew, craft, department, etc. is involved, assignment of overall job-associated lockout or tagout control responsibility will be vested to an authorized employee designated to coordinate affected work forces and ensure continuity of protection.

- Each authorized employee shall affix a personal lockout or tagout device to the group lockout device, group lockbox, or comparable mechanism when he or she begins work, and shall remove those devices when he or she stops working on the machine or equipment being serviced or maintained.

5.0 LOCKOUT/TAGOUT PROGRAM EXCEPTIONS

Once a facility evaluation has been conducted, documented procedures **will not** be developed when the following conditions exist:

- The machine or equipment has no potential for stored or residual energy or reaccumulation of stored energy after shut down which could endanger employees.

- The machine or equipment has a single energy source that can be readily identified and isolated.

- The isolation and locking out of that energy source will completely de-energize and deactivate the machine or equipment.

- The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.

- A single lockout device will achieve a locked-out condition.

- The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.

- The servicing or maintenance does not create hazards for other employees.

- The Facilities and Operations Department, in utilizing this exception, has had no accidents involving the unexpected activation or reenergization of the machine or equipment during servicing or maintenance; in the event of such occurrences, energy control procedures will be developed.

APPENDIX A

Definitions commonly found in the OSHA Lockout/Tagout Standard or that relate to the contents of the standard.

Affected employee means an employee whose job requires him/her to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee means a person who locks out or tags out machines or equipment in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing service or maintenance covered under this section.

Capable of being locked out means an energy isolating device is capable of being locked out if it has a hasp or other means of attachment to which, or through which, a lock can be affixed, or it has a locking mechanism built into it. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy-isolating device or permanently alter its energy control capability.

Energized means connected to an energy source or containing residual or stored energy.

Energy isolating device means a mechanical device that physically prevents the transmission or release of energy, including but not limited to the following:

1. A manually operated electrical circuit breaker.

2. A disconnect switch.

3. Manually operated switches by which the conductors of a circuit can be disconnected from all ungrounded supply conductors and, in addition, no pole can be operated independently.

4. A line valve, a block, and any similar device used to block or isolate energy.

5. Push buttons, selector switches, and other control circuit type devices **are not** energy isolating devices.

Energy source means any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Hot tap means a procedure used in the repair, maintenance, and service activities which involves welding on a piece of equipment (pipelines, vessels, or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to

replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petrochemical distribution systems.

Lockout means the placement of a lockout device on an energy-isolating device in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Lockout device means a device that utilizes a positive means such as a lock, either key or combination type, to hold an energy-isolating device in a safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

A normal production operation means the utilization of a machine or equipment to perform its intended production function.

Servicing and/or maintenance means the workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing machines or equipment. These activities include lubrication, cleaning or unjamming of machines or equipment, and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

Setting up means any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout means the placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout device means a prominent warning device, such as a tag and a means of attachment, which can be securely fastened to an energy isolating device in accordance with an established procedure to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

APPENDIX B

Sample Checklists for Lockout/Tagout Procedures, Periodic Inspections, and Special Situations

Energy Control Program

☐ Has an Energy Control Program been established?

Does the Program include:

- ☐ Energy control procedures?
- ☐ Employee training?
- ☐ Periodic Inspections?

Lockout/Tagout

☐ Is lockout used when an energy isolating device is capable of being locked out?

If tagout is used when an energy-isolating device is capable of being locked out, can the employer demonstrate:

- ☐ That tagout devices are attached at the same location as a lockout device would be?
- ☐ That a level of safety equivalent to using lockout is provided to employees?
- ☐ That compliance with all tagout provisions of the standard has been achieved?
- ☐ Implementation of additional safety measures to reduce the likelihood of inadvertent energization?
- ☐ Is new equipment or equipment which is replaced or undergoes major repair, renovation, or modification equipped with energy isolating devices designed to accept a lockout device?

Energy Control Procedures

☐ Have lockout/tagout procedures been developed and documented?

- ☐ Are the procedures actually used?

Do procedures outline the following:

- ☐ Scope?
- ☐ Purpose?

- ☐ Authorization?
- ☐ Rules?
- ☐ Techniques to be utilized?
- ☐ Means of enforcing compliance?

Do procedures include:

- ☐ A specific statement of intended use of the procedure?
- ☐ Specific procedural steps for shutting down, isolating, blocking, and securing machines?
- ☐ Specific procedural steps for the placement, removal, and transfer of lockout/tagout devices?
- ☐ Specific requirements for testing to ensure the effectiveness of energy control measures?

Protective Materials and Hardware

☐ Does the employer provide all necessary protective materials and hardware?

Are lockout/tagout devices:

- ☐ Singularly identified?
- ☐ The only devices used for energy control?
- ☐ Considered durable for the intended environment?
- ☐ Standardized within the facility in color, shape, size, print, and format?

☐ Does management ensure that lockout/tagout devices are not used for any other purpose than the control of energy?

☐ Are lockout devices substantial enough to prevent removal without use of excessive force or unusual techniques?

☐ Are tagout devices substantial enough to prevent inadvertent or accidental removal?

Are tagout devices:

- ☐ Nonreusable?

- ☐ Attached by hand?
- ☐ Self-locking?
- ☐ Nonreleasable with a minimum unlocking strength of 50 pounds?

☐ Do lockout/tagout devices identify the specific employee applying the device?

Do tagout devices:

- ☐ Warn against hazardous condition?
- ☐ Include a legend specific to the hazard (such as: do not start, do not open, do not energize, or do not operate)?

Periodic Inspections

☐ Are inspections of the energy control procedures conducted at least annually?

☐ Does an authorized employee other than the person utilizing the procedures being inspected perform inspections? (An authorized employee is defined as a person who locks out or tags out machines or equipment in order to perform servicing or maintenance.)

☐ Does the inspection include a review between the inspector and each authorized employee regarding the employee's responsibilities?

☐ If tagout devices are used, does the review also include training on the limitations of tags?

☐ Are all inspections documented including:
☐ The identity of the machine or equipment?

☐ The date of the inspection?

☐ The employees included in the inspection?

☐ The person performing the inspection?

Training and Communication

☐ Have all authorized employees received training?

Does the training include:

- ☐ Recognition of applicable hazardous energy sources?
- ☐ The type and magnitude of the energy available in the workplace?

- ☐ The methods and means necessary for control and isolation of energy?

- ☐ Have affected employees been instructed in the purpose and use of the energy control procedures? (Affected employees are those whose jobs require them to operate or use a machine or equipment on which servicing or maintenance is being performed under lockout or tagout, or whose job requires them to work in an area in which such servicing or maintenance is being performed.)

- ☐ Have all other employees whose work operations are or may be in an area where energy control procedures may be utilized received training?

Does this training include:

- ☐ Instruction about the procedure?

- ☐ Instruction about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out?

☐ If tagout systems are used, do employees receive training on the limitations of tags?

Does this training include:

- ☐ The fact that tags are merely warning devices and do not provide physical restraint?

- ☐ The fact that tags are not to be removed unless authorized by the employee responsible for the tag?

- ☐ The fact that tags should never be bypassed, ignored, or otherwise defeated?

- ☐ The fact that tags must be legible and understandable by all employees to be effective?

- ☐ The fact that tags must be made of materials suitable for the environment in which they are used?

- ☐ The fact that tags may evoke a false sense of security?

- ☐ The fact that tags must be securely attached?

Is refresher training provided under the following circumstances:

- ☐ When a change in job assignments occurs?

- ☐ When a change in machines, equipment, or processes occurs?

- ☐ When a change in the energy control procedures occurs?
- ☐ When a periodic inspection reveals deviations from or inadequacies in the employee's knowledge or use of the energy control procedures?

☐ When the employer has reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures?

☐ Is training documented?

Does the documentation include:

☐ Each employee's name?

☐ Dates of training?

Application of Controls

☐ Does the authorized employee have knowledge of the type and magnitude of the energy, the hazards of the energy to be controlled, and the method or means of control before turning off the machine or equipment?

☐ Is the machine or equipment turned off or shut down using the specific procedures established for that machine or equipment?

☐ Are all lockout/tagout devices located and operated in a manner which isolates the machine or equipment from the energy source?

☐ Do authorized employees affix lockout/tagout devices?

☐ Are lockout devices affixed in a way that will hold the energy-isolating device in a safe or off position?

☐ Is all stored energy relieved or otherwise rendered safe following the application of the lockout/tagout device?

☐ Prior to starting work on locked out or tagged out equipment, does the authorized employee verify that isolation and deenergization has been accomplished?

☐ If there is a possibility of reaccumulation of stored energy, does verification of isolation continue until servicing or maintenance is complete?

Release from Lockout or Tagout

Are the following procedures completed before the removal of lockout or tagout devices:

- ☐ Inspection of the work area to ensure that nonessential items have been removed and that the machine is operationally intact?
- ☐ Inspection of the work area to ensure that all employees have been safely positioned or removed?
- ☐ Are affected employees notified that the lockout or tagout devices have been removed before starting of the machine or equipment?
- ☐ Does the employee who applied the device remove lockout and tagout devices?

Additional

Is the following sequence of actions completed if lockout or tagout devices must be temporarily removed and the machine energized for testing or positioning:

- ☐ Clearing tools and materials from the machine?
- ☐ Removing employees to a safe location?
- ☐ Removing the lockout or tagout devices?
- ☐ Deenergizing the machine and reapply lockout or tagout devices?

- ☐ Are outside personnel informed of lockout/tagout procedures before engaging in maintenance and servicing operations?
- ☐ Are employees informed of the restrictions and prohibitions of the energy control program of any outside personnel performing maintenance and servicing operations?
- ☐ Is primary responsibility given to one authorized employee during group lockout/tagout efforts?
- ☐ Do provisions exist for this authorized employee to ascertain the lockout/tagout status of individual group members?
- ☐ Is primary responsibility given to one authorized employee during lockout/tagout efforts involving two or more groups of employees?
- ☐ Does each employee of a group affix a personal lockout or tagout device to a group lockout device before beginning maintenance or servicing?

- ☐ Does each employee of a group remove their personal lockout or tagout device from the group lockout device when their work on the machine or equipment is completed?

- ☐ Do procedures exist to ensure the continuity of lockout or tagout protection during shift or personnel changes?

Appendix D
Template for Machine/System Specific Procedures

To Use the template go to PPBser104/Central Files/Environmental Health & Safety/UAH Safety/Facilities/Policies and Programs/LOTO/CRH1/Template.

Follow these steps:

1) Insert appropriate equipment pictures and device to be locked and or tagged out.
2) Enter the type of lockout tagout device required.
3) Enter the types of energy to be isolated and their sources.
4) Enter the location of the energy source.
5) Enter the procedure for locking out or releasing the energy.
6) Enter the procedure for verification of lockout.
7) If a system is being locked and or tagged out enter the additional points to lockout to control the hazardous energy.
8) Enter the steps to remove the safety devices.
9) Enter the steps for reenergizing the equipment.
10) Enter the steps to test or position the equipment.
11) Enter any comments or special issues associated with this piece of equipment/system.