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# BYU

BRIGHAM YOUNG  
UNIVERSITY

**Provo, Utah**

***CONTROL OF HAZARDOUS ENERGIES:  
LOCKOUT TAGOUT PROGRAM***

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Appendix A, Control of Hazardous Energies Procedure Checklist

Appendix B, Authorized Form for Lockout Tagout Device Removal

Appendix C, Supervisor Self Checklist

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## 1.0 OVERVIEW

Implementation of this program will minimize risk associated with injury of persons and damage of equipment/machinery. In short, this is accomplished by following the procedures outlined in this program, using the forms found in the Appendices, and training Authorized Individuals.

*Note: Departments designate their own Authorized Individuals.*

Individuals falling within the scope of this program who service and/or maintain equipment are referred to throughout the rest of this program as Authorized Individuals. Persons in the area where lockout procedures are occurring who do not perform lockout procedures are referred to in this program as Affected Individuals.

## 2.0 POLICY

This program sets forth the requirements that Brigham Young University Authorized Individuals must perform while servicing and maintaining machines and equipment during which the unexpected start up or the release of stored energy could cause serious injury. Where such work is performed, the Authorized Individual(s) must de-energize the equipment and control all hazardous energies by applying a lock and tag on all energy sources associated with the piece of equipment. This is referred to as locking and tagging out the equipment/machinery.

## 3.0 REQUIREMENTS

- |                               |   |
|-------------------------------|---|
| ▷ 29 CFR 1910.147             | ▷ <a href="http://safety.byu.edu">http://safety.byu.edu</a> , Control of Hazardous Energies: Lockout Tagout Program |
| ▷ 29 CFR 1910.269             | ▷   |
| ▷ 29 CFR 1910.331 through 335 | ▷   |

## 4.0 PURPOSE

This program is intended to help prevent individuals performing service or maintenance work on machines and equipment from being injured. This can be accomplished when adequate lockout procedures are developed and used for the work falling within the scope of this program.

## 5.0 SCOPE

This program applies to all BYU Authorized Individuals who perform service and maintenance work on machines and equipment (including gas and water lines etc.) during which the unexpected energization or start up of the machines or equipment or release of stored energy could cause injury. Such work includes work on gas and water lines, and exposed parts that are normally energized.

Servicing or maintenance work that takes place during normal production operations (such as oiling a gear via an oil lube port) is not covered by this program, unless:

- A guard or other safety device is removed or bypassed; or

- An Authorized Individual is required to place any part of their 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 (such as moving gears, chains, etc).

*Exception: Work on electrical circuits where de-energizing introduces additional or increased hazards or is infeasible due to equipment design or operational limitation is not covered by this program. Example - testing of electric circuits that can only be tested with the circuit energized.*

## **6.0 PROCEDURES**

This section addresses the procedures to be followed for work falling within the scope of this program. Lockout procedures must be used whenever the unexpected energization or start up of the machines or equipment (including gas lines etc.), or release of stored energy could cause injury.

Prior to engaging in servicing and/or maintenance work individuals planning to perform the work must evaluate the work to be performed, determine all necessary lockout procedures, and implement the lockout procedures prior to and throughout the work. The form located in Appendix A of this program must be used to document the procedures needed each time lockout tagout is necessary. *Note: completed Appendix A forms are to be maintained for at least one year.*

All locks used for lockout must be accompanied with a tag listing the name and work phone number of the Authorized Individual responsible for placing the lock. The standard lock used for Lockout purposes must be red in color or red banded.

### **6.1 Lock Removal**

Lockout locks must not be removed by anyone but the Authorized Individual who has placed the lock unless absolutely necessary, in which case the form found in Appendix B (Abandoned Lock Form) must be completed, and the procedures contained therein followed. *Note: Removing a lockout device, belonging to someone else, could result in fatality or serious injury.*

### **6.2 End of Work shift Responsibility**

Individuals who have locked out a piece of equipment/machinery, but who have not completed the servicing or maintenance work they are trying to accomplish by the end of their workday must:

- If the Authorized Individual is the only person scheduled to work on the equipment and the work will carry over to the next day, that person must keep his/her lock and tag in place until they complete the machine maintenance or service.
- If another shift will be continuing the maintenance or service work, then the Authorized Individuals from the on-coming and off-going shifts will transfer responsibilities from the off-going shift to the on-coming shift. The off-going shift will remove their lock and the on-coming shift will install their own lock in accordance with all necessary procedures.

### **6.3 Group Lockout Requirements**

When individuals of more than one job class (i.e. plumbers and electricians) must jointly work on a piece of equipment/machinery then a procedure must be used that protects all individuals performing the work. This is accomplished by providing all job classes with a lock that they control. All locks are secured to a multi-hole lockout hasp. The hasp is attached to the equipment or machine cutoff switch, or equivalent. Individuals assigned (by an Authorized Individual) to control a lock have the same responsibility as if they were performing the lockout by themselves (such individuals must be Authorized by their department to perform such work). Lock placement and removal must be coordinated between the differing job classes.

#### 6.4 Plug-End Equipment

The Lockout standard does not apply to work on cord and plug connected electrical equipment, for which unplugging the equipment or machine from its electrical energy source can control exposure to hazards of unexpected energization or activation. Authorized Individuals performing servicing or maintenance on cord and plug equipment or machinery must meet or follow these guidelines:

- To qualify for the provisions of this appendix, all hazards associated with the unexpected energization or activation of the equipment or machinery must all be eliminated by solely unplugging the equipment or machinery (the only power source);
- The person performing the servicing or maintenance must unplug the equipment prior to beginning their work; and
- The plug end must remain under the exclusive control of the Authorized Individual performing the servicing or maintenance. This can be accomplished by having the Authorized Individual keep the plug-end in sight and within close proximity, or by having the Authorized Individual lock a case around the plug end and maintain control of the key.

#### 6.5 Motor Vehicle & Powered Industrial Equipment

To prevent injury from unexpected energization of vehicles and powered industrial equipment during servicing or maintenance operations, the Authorized Individual performing the maintenance or service work must institute the following procedures:

- Remove the ignition key(s), and maintain control of the key(s) throughout the servicing and/or maintenance.
- Attach a “tag” to the steering mechanism or control panel, in a readily visible location. The “tag” shall state:

**DANGER  
UNDER REPAIR  
DO NOT OPERATE**

- Block the wheels of the vehicle to prevent accidental movement.
- Secure all hydraulic and pneumatic systems to prevent accidental movement.
- If possible, detach battery cables from the battery.
- Disable any other potentially hazardous mechanisms.
- Permit only authorized personnel to work near the vehicle or equipment, who have been informed about the servicing and maintenance procedures.

## 6.6 Periodic Program Review

Each department must perform an annual evaluation of the lockout procedures utilized by their department. The evaluation is intended to improve the lockout procedures (when needed), and correct / improve any inadequacies. Evaluations are to include a visual evaluation of those Authorized Individuals performing the lockout procedures, and are to be performed by an authorized individual who does not use the lockout procedure(s) being evaluated. These evaluations are to be performed annually and maintained.

## 6.7 Recordkeeping Requirements

Departments must maintain records of the following:

- All completed Appendix A forms (maintain for one year);
- Training records for 3 years;
- Completed self assessment checklists for at least five years; and
- Disciplinary actions taken against individuals found violating lockout procedures.

This documentation must be reviewed annually by the responsible department.

## 7.0 RESPONSIBILITIES

### 7.1 Risk Management & Safety

- Help supervisors interpret government regulations regarding Lockout requirements;
- Provide general Lockout training;
- Perform spot checks to verify Departments are following this program; and
- Maintain and update the written program.

### 7.2 Departments

- Verify that their Authorized Individuals are completing Appendix A forms and following lockout procedures for the work falling within the scope of this program;
- Verify that their Authorized Individuals are receiving the necessary Lockout training;
- Supply all necessary lockout tagout equipment for their Authorized Individuals;
- As needed, designate Authorized Individuals to perform servicing and maintenance work that falls within the scope of this program;

- Maintain completed Appendix A forms for one year, training records for three years, and completed self assessment checklists for five years; and
- Contractors working on Campus are required by law and their University Contract to meet all OSHA rules and regulations. Failure to follow Lock out/Tag out standards demonstrates a breach of contract and could lead up to and including contract cancellation.

### 7.3 Supervisors

- Supervisors must ensure that their Authorized Individuals performing work falling within the scope of this program receive all necessary lockout training;
- Conduct a pre-job evaluation to ensure Lockout procedures have been implemented and that all energy sources have been isolated; and
- Supervisors should also carry out appropriate disciplinary actions for those Authorized Individuals who fail to use or by pass the requirements outlined in this written program.

### 7.4 Authorized Individuals

- Authorized Individuals must complete a Hazardous Energies Assessment before performing maintenance or service on equipment or machinery. The form found in Appendix A of this program must be used when performing the assessment.
- Authorized Individuals performing work that falls within the scope of this program must follow all applicable lockout procedures and guidelines.
- Authorized Individuals must attend the required training outlined in this program.

## 8.0 TRAINING REQUIREMENTS

Authorized Individuals who are to perform lockout procedures are to receive training prior to engaging in their work, and at least annually thereafter. Such training is offered by Risk Management & Safety. The training is to ensure that the purpose and function of the lockout program is understood. The supervisor will also ensure that Authorized Individuals have acquired the knowledge and skill required for safe application, use and removal of lockout devices, prior to having authorized individuals perform lockout procedures prior to assigning such work.

Annual training must include at least the following:

- Preparatory Procedures.
- Recognition of hazardous energy sources, the magnitude of the available energy and the methods and means necessary for isolation and control of the available energy.
- Releasing equipment or machinery from lockout procedures.
- Review of University written program.

Re-training must be provided, annually and:

- Whenever there is a change in job assignments, change in machines, equipment or process, or whenever there is a change in the lockout procedures;

- Whenever Authorized Individuals are unfamiliar with lockout procedures, or appear to have inadequate knowledge concerning what is required by this program, then the Authorized Individual shall be re-trained prior to servicing or maintaining the machine or equipment.
- If department supervisors feel that an Authorized Individual is in need of the training.

Each department must maintain a record of all Authorized Individuals training. The documentation needs to include:

- Subject of training.
- Date of training.
- Authorized Individual name.
- Name of supervisor or Safety Dept. personnel providing the training.

A record of the training outlined above must be maintained by the department for a minimum of three years.

## **9.0 MONITORING**

Using the Supervisor Self Checklist found in Appendix C of this program Supervisors can measure how much, if any improvement is needed in order to comply with current OSHA standards regarding control of hazardous energy.

Supervisors overseeing individuals that perform work that falls within the scope of this program need to use the Supervisor Self Checklist at least annually. All university divisions/departments impacted by the Lock Out/Tag Out Program will submit an annual report to the University Compliance Committee outlining the level of compliance being achieved. Completed checklists must be maintained for at least five years and provided to Risk Management & Safety when requested.

## **10.0 APPENDICES**