HUMBOLDT STATE UNIVERSITY

CONTROL OF HAZARDOUS ENERGY

LOCKOUT/TAGOUT PROGRAM

1.0 REGULATORY AUTHORITY

Code of Federal Regulations, 29 CFR 1910.147; California Code of Regulations, Title 8, Sections 2320.1 and 3314; CSU, Fullerton Injury and Illness Prevention Program.

2.0 POLICY

It is the policy of Humboldt State University to maintain, insofar as is reasonably possible, a campus environment for faculty, staff, students and the public that will not adversely affect their health and safety nor subject them to avoidable risks of accidental injury or illness. Furthermore, the University has an obligation to safeguard employees from hazardous energy while they are performing servicing or maintenance on machines and equipment.

3.0 PURPOSE

Hazardous energy appears in the workplace in the form electrical, mechanical, pneumatic, hydraulic and thermal energy and includes chemical, water, steam and gaseous energy systems. Lockout/tagout procedures prevent the unexpected energization, start up or release of stored energy that could cause injury to employees working on equipment. OSHA estimates that nearly 2% of all deaths in the workplace would be affected by adherence to this rule.

The purpose of this program is to identify the practices and procedures necessary to shut down and lock out or tag out machines and equipment. It requires that employees receive training in the lockout/tagout program and requires that periodic inspections be conducted to maintain and enhance the program.

4.0 SCOPE AND APPLICATION

This program applies to all University departments whose employees service or maintain equipment and machines which could either unexpectedly start up, or work in areas where the possibility of the release of stored energy could cause injury to employees. This includes authorized employees who perform repair, servicing and maintenance operation and affected employees who work with the equipment to be lock or tagged out. This program should be appended to the department's Injury & Illness Prevention Program document.

This program does not apply in the following situations:

1. Servicing or maintaining of cord and plug connected electrical equipment.
2. During hot tap operations that involve transmission and distribution systems for gas, steam or water when they are performed on pressurized pipelines.
3. When employees are provided with an alternative type of protection that is equally effective.

5.0 DEFINITIONS

Affected Employee - an employee who performs the duties of his or her job in an area in which the energy control procedure is implemented and servicing or maintenance operation are performed, or work with the equipment to be locked or tagged out.

Authorized Employee - an employee who performs servicing or maintenance on machines and equipment. Lockout or tagout is used by these employees for their own protection.

Energy Isolating Device - any mechanical device that physically prevents the transmission or release of energy . These include electrical circuit breakers, disconnect switches, line valves, and blocks.

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

Energy Control Procedure - written documentation that contains all information needed for authorized employees to safely control hazardous energy during servicing or maintenance of machines or equipment.

Lockout - the placement of a lock on an energy isolating device such as a circuit breaker, disconnect switch, line valve or block in accordance with established procedure so that the equipment or machine controls cannot be activated until the lockout device is removed.

Tagout - placement of a tag, sign or label to an energy isolating device as a warning to others that the equipment or machine cannot be operated until the tagout device is removed.

6.0 RESPONSIBILITIES

6.1 Department

The director or chair of each department is responsible for determining if activities involving the use of hazardous energy sources are subject to and performed in accordance with the requirements of this program. EH&S may be contacted for assistance in making this determination.

6.2 Plant Operations

A majority of the hazardous energy sources on campus are the responsibility of the Plant Operations. They are responsible for the following:

a. Identify all Group I maintained machinery or equipment which is subject to this program.
b. Identify "authorized" and "affected" employees within Plant Operations

c. Ensure that all authorized and affected employees in Plant Operations receive proper training on the Lockout/Tagout Program.

d. Develop, document and utilize written energy control procedures for each potentially hazardous energy source.

e. Ensure all new and refurbished equipment is capable of accommodating lockout devices.

f. Provide ongoing funding of the lockout/tagout program.

6.3 Environmental Health and Safety

Environmental Health and Safety will be responsible for the following:

a. Develop and maintain a written program that complies with the requirements of Cal/OSHA.

b. Provide training to applicable HSU supervisors on the requirements of the program.

c. Assist Plant Operations and affected departments in identifying hazardous energy sources and choosing of proper lockout/tagout devices.

6.4 Authorized and Affected Employee

a. Comply with the provisions of the Lockout/Tagout Program.

b. Assist in the identification of hazardous energy sources and report these to their supervisor.

c. Report to their supervisors whenever lockout procedures are not being followed.

7.0 LOCKOUT/TAGOUT PROGRAM

7.1 Identification of Sources

Plant Operations and other departments that have hazardous energy sources must identify all machinery and equipment that is subject to the lockout/tagout program. All affected equipment will be effectively signed with warning labels.

7.2 Energy Control Procedure

Written procedures for each energy source must identify the information authorized employees must know in order to control hazardous energy during servicing or maintenance. If the information is the same for a group of machines or equipment, then a single energy control procedure may be sufficient. Procedures will include the following:

1. Procedural steps to shut down, isolate and secure machines or equipment.

   a. Prepare for shutdown.
   b. Shut down the machinery or equipment.
   c. Apply the lockout or tagout device.
   d. Safely release all stored energy.
   e. Verify the isolation of the machine or equipment.

2. Procedural steps for re-energizing equipment after servicing is complete.

   a. Inspect the work area to ensure all items have been removed and that the equipment is intact and capable of operating properly.
   b. Notify affected employees immediately after removing locks or tags and before starting equipment or machines.
   c. Make sure tags or locks are removed only by those employees who attached them.

3. Methods for enforcing compliance.
   See attached (department name) procedures.

7.3 LOCKOUT/TAGOUT DEVICES

In every instance, a lockout device is preferable to a tag because tags do not present a physical restraint to the startup of equipment. Tags are warning devices which can be easily removed, bypassed, obscured or ignored. When a tag is used, further steps must be taken such as removing a circuit fuse to ensure the safety of others.

The following are requirements for lockout/tagout devices:

1. Departments are responsible for providing employees with a sufficient number of devices for control of hazardous energy.

2. Lockout/tagout devices must be only used or controlling energy and shall not be used for other purposes.

3. Lockout/tagout devices must be capable of withstanding the environment for the period of time they will be applied. Tagout devices must be constructed and printed so that the exposure to weather, wet conditions or corrosive environments will not alter the tag or make it unreadable.

4. Lockout/tagout devices must be standardized within a department. Color, shape or size must be standard. With tagout devices, print and format must also be standard.

5. Lockout devices must be sturdy enough to prevent removal without the use of excessive force. Tagout devices must be sturdy enough to prevent

inadvertent or accidental removal. Tagout attachment devices must be non-reusable and self-locking.

6. Devices must indicate the identity of the employee applying the device. Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include warnings such as *"Do Not Open, Do Not Close, Do Not Operate."*

7.4 INSPECTION PROCEDURES

To ensure this compliance with this program, the department must conduct an annual inspection of the procedures.

1. Inspection must be conducted by an authorized employee other than the one using the control procedures.

2. Inspection must be designed to correct any deficiencies.

3. The inspections shall include a review of procedures with the authorized employees.

4. The inspection must be documented with the name of the machine or equipment, the date of inspection, the employees included and the person conducting the inspection. Records must be kept for five years.

8.0 EMPLOYEE TRAINING

The department will be responsible for training to ensure the purpose and function of the lockout/tagout program is understood by all authorized and affected employees. EH&S can be contacted to help facilitate the training.

8.1 Employees

a. Authorized employees must receive training in the recognition of hazardous energy sources and the methods used for isolation of these sources.

b. Affected employees shall be instructed in the purpose and use of the energy control procedure.

c. All other employees who work in the area must be made aware of the control procedures and the about the prohibition on restarting equipment that has been locked or tagged out.

8.2 When tags are used, training must include the following:

1. Tags are warning devices and do not provide physical restraint.
2. Tags cannot be removed other than by the authorized person responsible for it.
3. Tags must be legible and understandable by all employees.
4. Tags must be made out of sturdy material and capable of withstanding the environment in which they are used.
5. Tags must be securely attached so that they cannot be inadvertently detached.

8.3 Retraining

Retraining shall be provided whenever there is a change in job assignment, a change in machines, equipment or processes or when there is a change in the energy control procedures. Refresher training shall be conducted no less frequent that biannually.

8.4 Recordkeeping

Documentation must be kept on the employee's name, date of training and name of trainer.

9.0 CONTRACTORS AND VENDORS

Contractors and vendors who perform work on University property must adhere to the policies of this program. Training must be provided to off campus employees by the contractor and must include the purpose and use of lockout/tagout procedures including the prohibitions on restarting of equipment which has been locked or tagged out. It is the responsibility of the project manager to ensure these instructions have been carried out.

Under no circumstances shall HSU lockout/tagout equipment or procedures be issued to a contractor for use. The contractor must supply all lockout/tagout equipment, materials and training.

10.0 POLICY EXCEPTIONS

A written procedure need not be developed for a particular machine or equipment, when all of the following elements exist

1. There is no potential for energy to be stored or re-accumulated after the shutdown.
2. There is a single, readily identifiable source of energy isolation, and the isolation in completely de-energizes the equipment.
3. The machine is locked out during service.
4. Application of a single lockout device provides a complete lockout condition.
5. The lockout device is under the exclusive control of the employee performing the work.
6. The maintenance or service does not itself create a hazard to other employees.
7. There have been no accidents or incidents involving the unexpected activation of machines during service or maintenance.