

Hibbing Community College

LOCKOUT /TAGOUT WRITTEN PROGRAM

This program requires employers to establish a program and utilize procedures for affixing appropriate lockout devices 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.

The employer shall establish a program consisting of energy control procedures, employee training and periodic inspections to ensure that before any employee performs any servicing or maintenance on a machine or equipment where the unexpected energizing, startup or release of stored energy could occur and cause injury, the machine or equipment shall be isolated from the energy source and rendered inoperative.

APPLICATION

If during service or maintenance of equipment, unexpected start up could occur or stored energy could be released causing injury, a lock out program must be established.

EXCEPTIONS

- Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start up of the equipment is controlled by the unplugging of the equipment from the energy source and by the plug being under the exclusive control of the employee performing the servicing or maintenance.
- Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that continuity of service is essential; shutdown of the system is impractical; and documented procedures are followed, and special equipment is used which will provide proven effective protection for employees.

PROGRAM ADMINISTRATION

The Supervisor has the responsibility and authority for the lockout procedure. These responsibilities include identification of equipment; selection and acquisition of lockout devices; design of lockout and verification procedures; designation of responsible, affected, and authorized for group lockout employees; training; and evaluation of program effectiveness.

PREPARATION FOR LOCKOUT

A survey to locate and identify all isolating devices to be certain which switches, valves or other isolating devices apply to specific equipment types has been made, and a copy is included in this program. Sources of energy and their locations are listed. The Department Head where lock out is being required will be responsible for updating this survey.

LOCKOUT STEPS

- Step 1 - Before an authorized or affected employee turns off a machine or 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. **NOTIFY** all affected employees that lockout is going to be used and reasons why.
- Step 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.
- Step 3 - Energy isolating devices that are needed 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).
- Step 4 - Lockout devices shall be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.
- Step 5 - 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.
- Step 6 - Prior to starting work on machines or equipment that have been locked out or tagged out, the authorized employee shall verify that isolation and de-energization of the machine or equipment have been accomplished.

THE EQUIPMENT IS NOW LOCKED OUT.

SPECIFIC

A specific procedure will be written for each equipment type requiring multiple lockouts. These completed procedures will be kept at the end of this written program; copies may be kept in maintenance areas for ready access. The Supervisor will be responsible for ensuring that any new equipment with multiple lock out will have a procedure developed.

MULTIPLE LOCKS

If more than one individual is required to work on a piece of equipment, each shall place their own lock on all energy isolating devices. A multiple lockout device may be used.

USE OF TAGOUT

When a full positive lockout is not possible, a full tagout must be in place. 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, and the employer shall demonstrate that the tagout program will provide a level of safety equivalent to that obtained by using a lockout program.

Tagout systems have many limitations and are not recognized as having the same degree of protection as a positive lockout system. Lockout will be the energy control program of choice. Whenever major replacement, repair, renovation or modification of machines or equipment is made, and whenever new machines or equipment are installed, energy isolation devices will be designed to accept lockout devices.

RELEASE FROM LOCKOUT/TAGOUT

Before lockout or tagout devices are removed and energy is restored to the equipment the following steps will be taken.

- STEP 1 - **INSPECT** work area to ensure machine components are intact and non-essential items (tools, etc.) have been removed.
- STEP 2 - Ensure that all **EMPLOYEES** are **OUT OF DANGER**, and notify affected employees of start-up.
- STEP 3 - Each **LOCKOUT DEVICE** will be **REMOVED** by the employee who applied the device. (See Exception Section below).
- STEP 4 – **START EQUIPMENT** to ensure proper operation

If the machine must be tested and lockout devices are temporarily removed, steps 1-3 will be followed. After testing, all systems must be de-energized and the lockout procedure must be repeated.

EXCEPTION: When employee who applied the lockout or tagout device is not available to remove it, it may be removed if the following procedure is followed.

- STEP 1 - Verify that authorized employee who applied lock is not on the campus.
- STEP 2 - Make all reasonable efforts to contact employee
- STEP 3 - Remove the lockout or tagout device in accordance with the procedure.
- STEP 4 - Continue to attempt to contact authorized employee; ensure that they know what occurred before returning to work.

TRAINING AND COMMUNICATION

All authorized (performs lockout) and affected (uses equipment) employees shall be trained in the purpose and function of the energy control program. Authorized employees will be given the knowledge and skills required for the safe application, usage, and removal of energy controls. In addition, all other employees who may be in an area where energy controls are being used will be instructed on the procedure and about the prohibitions relating to re-starting or re-energizing locked out or tagged out equipment. When tagout systems are used, employees will also be trained in the limitations of tags. Retraining will be provided when personnel changes, machine changes, process or energy control procedure changes occur, or if the employer suspects or the program review indicates inadequacies in employee knowledge or skills.

PROGRAM REVIEW

The effectiveness of the energy control procedure will be determined every 12 months by the Supervisor who will observe a lockout application. The inspection will include all the steps of lockout, and will be documented. Appropriate action will be taken when the results of the documented observation warrant.

RECORDKEEPING

Records (training & lockout observation) will be kept on a document imaging system for a minimum of 5 years.

Hibbing Community College SPECIFIC LOCKOUT PROCEDURE

Equipment: Pumps

Location: Mechanical Rooms & Bldg. U

PREPARATION:

Energy Sources

Hazard Potential

- Electrical Shock
- Water Burn or Pressure

NOTIFICATION: (Persons working in area, by name or job): Maintenance or Work Study Employees

SHUTDOWN (at equipment) :

Energy Sources

Type of Shutoff

Shutoff Location

- Electrical Disconnect Box Mechanical Room
- Water – if hot or pressurized Valve Near Pump

BLEED/BLOCK/BLANK:

Energy Sources

Method

Specific Relief Location

- Water Valve Under supply line

LOCKOUT/TAGOUT:

Energy Sources

Type of Shutoff

Shutoff Location

Specific
LO/TO Device

- Electrical Disconnect Box Mechanical Room Lock
- Water Valve Near Pump Chain & Lock
if hot or pressurized

ATTEMPT TO START:

Energy Sources

Type of Shutoff

Shutoff Location

- Electrical Disconnect Box Mechanical Room
- Water - if hot or pressurized Valve Near Pump

RETURN TO OFF POSITION:

Reviewed by Supervisor: _____ **Date:** _____

Hibbing Community College SPECIFIC LOCKOUT PROCEDURE

Equipment: Chiller Tank

Location: U Building

PREPARATION:

Energy Sources

- o Electrical
- o Water

Hazard Potential

Shock
Burn or Pressure

NOTIFICATION: (Persons working in area, by name or job): Maintenance or Work Study Employees

SHUTDOWN (at equipment) :

Energy Sources

- o Electrical
- o Water

Type of Shutoff

Switch
Valve

Shutoff Location

East Side of Chiller on York Panel
South of Chiller Tank

BLEED/BLOCK/BLANK:

Energy Sources

- o Water

Method

Open Valve

Specific Relief Location

Under Supply Lines

LOCKOUT/TAGOUT:

Energy Sources

- o Electrical
- o Water (4)

Type of Shutoff

Disconnect Box
Valves

Shutoff Location

East of Chiller Tank
South of Chiller Tank

Specific
LO/TO Device

Lock
Chain & Lock

ATTEMPT TO START:

Energy Sources

- o Electrical
- o Water

Type of Shutoff

Disconnect Box
Valve

Shutoff Location

RETURN TO OFF POSITION:

Reviewed by Supervisor: _____ **Date:** _____

Hibbing Community College SPECIFIC LOCKOUT PROCEDURE

Equipment: Heat Exchanger

Location: U Building

PREPARATION:

Energy Sources

Hazard Potential

- Electrical – 460V
- Water
- Steam

- Shock
- Burn or Pressure
- Burn

NOTIFICATION: (Persons working in area, by name or job): Maintenance or Work Study Employees

SHUTDOWN (at equipment) :

Energy Sources

Type of Shutoff

Shutoff Location

- Electrical
- Hot Water
- Steam

- On/Off Panel
- Valve
- Valve

- West of Exchanger
- West Side
- South of Exchanger

BLEED/BLOCK/BLANK:

Energy Sources

Method

Specific Relief Location

- Hot Water
- Steam

- Open Drain Valve
- Open Drain Valve

- Under supply return lines
- Bottom of Exchanger – east side
- Specific

LOCKOUT/TAGOUT:

Energy Sources

Type of Shutoff

Shutoff Location

LO/TO Device

- Electrical Disconnect Box
- Water Valve
- Steam Valve

- On Panel
- At supply line
- On Steam Line

- Lock
- Chain & Lock
- Chain & Lock

ATTEMPT TO START:

Energy Sources

Type of Shutoff

Shutoff Location

- Electrical
- Hot Water
- Steam

- On/Off Panel (turn to A)
- Valve
- Valve

- West of Exchanger
- West of Exchanger
- South of Exchanger

RETURN TO OFF POSITION:

Reviewed by Supervisor: _____ **Date:** _____

**Hibbing Community College
LOCKOUT/TAGOUT ANNUAL REVIEW**

DATE: _____ **EQUIPMENT:** _____

EMPLOYEE(S) PERFORMING LOCKOUT:

Name: _____

Job Description

EMPLOYEE(S) OBSERVING LOCKOUT:

Name(s): _____

Job Description

LOCKOUT:	YES	NO	COMMENTS/CORRECTION:
1. All energy sources identified?	_____	_____	
2. All persons in area notified?	_____	_____	
3. Shutdown at equipment?	_____	_____	
4. Bleed/Block/Blank?	_____	_____	
use N. A. if not applicable			
5. Lockout/Tagout? (circle)			
Electrical	_____	_____	
Gas	_____	_____	
Other _____	_____	_____	
6. Attempt to START?	_____	_____	
Return to OFF?	_____	_____	
RELEASE:			
1. Inspect work area	_____	_____	
2. Notify of startup	_____	_____	
3. Remove Locks	_____	_____	
4. Start up	_____	_____	

Supervisor Signature: _____

Date: _____