A. General Electrical Training. Appropriate technical, maintenance, industrial and instructional employees whose job responsibilities place them at risk from electrical shock, shall be trained to identify exposed live parts of electrical equipment, to determine the normal voltage of exposed parts and understand specified clearance distances for corresponding voltages to which they will be exposed.

B. Safety-related work practices affecting these employees shall be implemented to prevent injuries resulting from either direct or indirect electrical contacts.

1. Equipment and/or circuits shall be de-energized before any type of work is performed including stored energy devices such as capacitors or associated equipment.

2. Before any person is exposed to contact with parts of fixed electrical equipment or circuits which should be de-energized, the energizing part shall be locked out and tagged. Only the authorized employee who applied the lock and tag shall remove the device(s).

3. Employees who work on or near overhead power lines shall be trained in applicable safety procedures.

4. Employees shall be trained in the safe use and proper care of electrical equipment, including handling, visual inspection and proper connection of plugs and receptacles.

5. Persons working in areas where there are potential electrical hazards shall use electrical protective equipment that is appropriate for the work to be performed.
LOCKOUT/TAGOUT PRACTICES

A. These practices establish a program for the lock out of energy isolating devices whenever maintenance is performed on machines or equipment. This program shall be used to ensure that the machine or equipment is stopped, isolated from all potentially hazardous energy sources, cleared of residual energy and locked out before any maintenance is initiated. These procedures are in place to prevent the unexpected start-up of the machine and to prevent any resultant injury. A written procedure will be established for each piece of equipment unless the piece of equipment can be effectively de-energized by unplugging and the plug remains under the exclusive control of the individual performing work on the equipment. (See Appendix A for format)

B. All persons shall comply with the restrictions and limitations imposed by the use of the lock out/tag out program. Authorized persons shall carry out the lock out/tag out process in accordance with this policy. All persons, upon observing a machine or piece of equipment that is locked out/tagged out shall not attempt to restart, energize or use that machine or equipment. Failure to adhere to the lockout/tagout program can subject the violator to the college's disciplinary procedures.

C. Only a properly trained authorized employee shall implement this procedure. Lock out begins with the authorized employee identifying all isolation devices to determine which switch(s), valve(s), or other energy isolating devices that apply to the machine or equipment are to be locked out. More than one energy source (electrical, mechanical or other) may be involved. The written procedure for the machine or piece of equipment involved shall be followed to make certain that the appropriate procedures are used to lockout/tagout the machine or equipment. If no written procedure can be located no work on the machine or piece of equipment shall be performed until the written procedure is located or developed.

Sequence of Lock Out/Tag Out:

1. Notify all affected persons that maintenance is required on the machine or equipment and it must be shut down and locked out/tagged out to perform the maintenance. If the number of affected persons is so large that face to face notification is unrealistic, email or face to face notification with the management of affected persons is appropriate. In the event that notification of management is chosen, documentation of the notification is recommended.

Revised: August 2009
2. The authorized person shall identify the type and magnitude of the energy that the machine or equipment utilizes, shall understand the hazards of the energy and shall know the methods to control the energy.

3. If the machine or equipment is operating, shut it down by the normal stopping procedures (depress stop button, open switch, close valve(s), etc.).

4. De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy control source(s).

5. Lock out the energy isolating device(s) with assigned individual lock(s) and attach tag with current date and the name of the authorized person performing the work.

6. Stored or residual energy (such as that in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc.) must be dissipated or restrained by approved methods such as grounding, re-positioning, blocking, bleeding down, etc.

7. Ensure that the equipment is disconnected from the energy source(s) by first checking that no person(s) are exposed, then verify the isolation of the equipment by operating the push button or other normal operating control(s) or by testing to make certain the equipment will not operate. IMPORTANT - Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

8. The machine or equipment is now locked out/tagged out.

Restoring Equipment to Service:

1. Check the machine or equipment as well as the immediate area to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

2. Check to ensure that all people have been safety positioned or removed from the area.

3. Verify that the controls are in neutral.

4. Remove the lock out device(s). NOTE - Removal of lock(s) are to be done only by those authorized employees who installed them. Re-energize the machine or equipment.

5. Notify affected employees that the maintenance is complete and that the machine is ready for use.
D. Training shall be provided to ensure that appropriate employees understand the purpose and function of the electrical energy control programs and that the required knowledge and skills are present for necessary application of the programs.

1. Employees authorized to lock out or tag out energy control devices in order to perform maintenance on machines and/or equipment, shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available, as well as the methods and means necessary for energy isolation and control.

2. Each affected employee whose job requires them to operate or use a machine or equipment on which maintenance will be performed under lock out/tag out, or whose job requires working in an area in which such maintenance is being performed, will be instructed in the purpose and use of the energy control procedures.

3. All employees, whose work operations are or may be in an area where energy control procedures may be utilized, will receive instruction concerning the procedures.

4. Retraining shall be provided for appropriate employees whenever there is a change in job assignment, a change in machines, equipment or processes that present a new hazard, when there is a change in the energy control procedures or whenever there is reason to believe that energy control procedures are not properly followed.

5. Each department shall certify that each person's training has been accomplished, is being kept up to date and is transmitted to the central record keeping system in the Human Resources Department. The certification shall contain each person's name, signature and dates of training.
COLUMBUS STATE COMMUNITY COLLEGE
PHYSICAL PLANT

LOCKOUT TAGOUT PLAN

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POLICY STATEMENT

PURPOSE

The Lockout/Tagout Policy of Columbus State Community College is to comply with the Occupational Safety and Health Administration (OSHA) regulation, “Control of Hazardous Energy”, 29CFR1910.147. It is intended to protect college employees, contractors, students and visitors from the hazards caused by the inadvertent activation of equipment during maintenance. This policy establishes the requirements to manage such hazards.
SCOPE

Lockout/Tagout is mandatory if:

(i) An employee is required to remove or bypass a guard or safety device.
(ii) An employee is required to place any part of his or her body in an area of the machine or piece of equipment where the point of operation occurs.
POLICY

Columbus State Community College is dedicated to providing safe working facilities for students and employees. It is also our responsibility to comply with federal, state and city occupational health and safety standards. Administrators, faculty, staff and students all share a responsibility to reduce hazards due to the unintentional release of hazardous energy. The Lockout/Tagout Plan shall be implemented for all Columbus State facilities to include all electrically, chemically, pneumatically, thermally and hydraulically powered machinery. Contractors must also comply with this plan.
DUTIES AND RESPONSIBILITIES

DESIGNATED SUPERVISORS SHALL:

(i) Implement provisions of Lockout/Tagout Plan under their control
(ii) Identify potentially dangerous equipment
(iii) Identify authorized personnel to perform lockout/tagout
(iv) Report and document via email or written report all workplace injuries and unsafe conditions to the proper college officials
(v) Provide proper locking and tagging equipment to include locks, tags and hasps for multiple locks
(vi) Verify that lockout/tagout procedures for equipment under their control are completed and adequate

AUTHORIZED EMPLOYEES SHALL:

(i) Adhere to the requirements of the Lockout/Tagout Policy
(ii) Ensure the security of their own locking devices
(iii) Complete all safety training
(iv) Report and document via email or written report all workplace injuries and unsafe conditions to their supervisors and/or college officials
C. STEPS FOR LOCKOUT/TAGOUT

1. The authorized employee notifies all affected employees that a lockout/tagout procedure is ready to begin.

2. The machinery or equipment is de-energized.

3. The authorized employee releases or restrains all stored energy.

4. All locks and tags are checked for defects. If any are found, the lock or tag is discarded and replaced.

5. The authorized employee places their assigned lockout lock and a tag with the current date and their name on the energy isolating device.

6. The authorized employee attempts to start the machine or equipment to ensure that it has been isolated from its energy source. Any switches, buttons or energy controlling devices turned on to attempt to start the machine or piece of equipment are turned off after this test.

7. The machinery or equipment is now ready for service or maintenance.
D. **STEPS FOR THE REMOVAL OF LOCKOUT/TAGOUT**

1. The authorized employee checks the machinery or equipment to be certain no tools have been left behind.

2. All safety guards are checked to be certain that they have been replaced properly.

3. All affected employees are notified that the machinery or equipment is about to go back into production.

4. The authorized employee performs a secondary check of the area to ensure that no one is exposed to danger.

5. The authorized employee removes the locks and/or tags from the energy isolating device and restores energy to the machinery or equipment.
E. **TESTING AND POSITIONING**

Before a machine can be placed in service the positioning of parts is sometimes required.

The following procedure should be followed when testing or positioning machinery or equipment during service and maintenance:

1. The authorized employee makes certain that the work area is clear of tools and materials.

2. The authorized employee notifies all affected employees that the machinery or equipment will be positioned or tested.

3. All employees leave the area.

4. Locks or tags are removed.

5. The machine is started and tested or positioned.

6. When testing or positioning is complete, the machinery or equipment is de-energized following the proper lockout/tagout procedure for servicing or the machine is returned to production via the appropriate procedure.
F. TRAINING

All affected and authorized employees working in an area requiring lockout/tagout procedures must be trained. Training will include:

1. The recognition of lockout/tagout devices and the importance of not disturbing or removing items unless authorized.

Additionally authorized employees will receive training to include

2. The safe application, use, and removal of energy controls.

Training will be done on an annual basis. At this time, procedures and equipment will be reviewed. New employees will be issued a lockout device and trained on the proper lockout/tagout procedures during orientation.
G. MULTIPLE LOCKOUT, OUTSIDE PERSONNEL, SHIFT CHANGES

MULTIPLE LOCKOUT

In a multiple lockout/tagout procedure, each person working on the machinery or equipment must place a lock or tag on the energy isolating device. If the energy isolating device will not accept multiple locks or tags, a hasp (a multiple lockout device) may be used. The locks or tags must be placed in such a way that energy cannot be restored to the machinery or equipment until every lock or tag is removed. As each employee involved no longer needs to maintain his/her lockout/tagout protection, that employee removes his/her lock or tag. The employee attaching the lock or tag is the only person authorized to remove the lock or tag.

OUTSIDE PERSONNEL

When outside personnel, such as contractors, are on site and engaged in activities that require compliance with the Lockout/Tagout Standard, the on-site employer and the outside employer must inform one another of their lockout/tagout procedures. It is the responsibility of the on-site employer to ensure that his/her employees understand and comply with the methods of the other’s lockout/tagout procedures.

SHIFT CHANGES

A high percentage of accidents historically occur shortly after a shift change and are often due to a lack of communication. During a shift change, exiting personnel should meet oncoming personnel at the lockout/tagout device if the oncoming authorized employee is to perform work on the machine or piece of equipment. The oncoming authorized employee should place his/her lock or tag on the energy isolating device before the exiting authorized employee removes his/her lock or tag. If simultaneous lockout is not possible, the oncoming authorized employee should place his/her lock/tag on the energy-isolating device immediately after the exiting authorized employee removes his/her lock/tag. Employees finishing their shift shall inform oncoming employees of any problems or concerns regarding the service and maintenance of machinery or equipment.