LOCKOUT – TAGOUT

PURPOSE

The purpose of the lockout / tagout policy is to prevent personal injury and property damage due to the accidental start up of machinery and equipment which is under repair or on which maintenance is being performed.

DEFINITION

The term lockout / tagout (LO/TO) means using a lock or a lock and a lockout device that, when in use, makes it impossible to activate a switch, circuit breaker, etc., that would set a machine or process in motion endangering an employee working on the machine or process. Lockout takes into account the total energy system sources such as: electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, and thermal, as well as gases in pipes, hot water and high volume water.

CODE INFORMATION

This lockout/tagout program is based on the requirements outlined in **General Environmental Controls: Division 2, Subdivision J, 1910.147 of the Oregon Administrative Rules** and other lockout/tagout requirements covered in other OR-OSHA codes.

COPIES OF THE POLICY

Copies of the Southwestern Oregon Community College (SOCC) Lockout/Tagout policy will be kept in each department found to have vehicles, machinery or equipment that requires the use of the policy, and "authorized" and/or "affected" personnel to use the policy. A master copy will be kept in the Plant Services office.

APPLICATION

This standard applies to the control of energy during servicing and/or maintenance of machines and equipment.

EXCEPTIONS

Minor tool changes and adjustments, and other minor servicing activities, which take place during normal production operations, are not covered by this policy if they are routine, repetitive, and integral to the use of the equipment for production, provided the work is performed using alternative measures which provide effective protection. (See OAR 437-02/O: Machinery and Machine Guarding 1910.211-1910.222)

Work on cord and plug connected electric equipment for which exposure to the hazards of unexpected energization or start up of equipment is controlled by the unplugging of the equipment from the energy source is not covered by this policy **when the plug remains under the exclusive control of the employee performing the servicing or maintenance.**

RESPONSIBILITY

It is the responsibility of the individual servicing or maintaining the equipment to place a personal lock and tag on the machine in accordance with the SOCC policy and procedures.

OAR 437-02-154 – Each person's lock shall have either a key or combination which is unique to that device.

Locks, tags, and other devices will be standardized within the facility. Locks will be color coded and labeled with the individual's name. Other devices will be identified as a lockout device and made of a substantial material. An appropriate employee identification tag will be attached to the device during servicing or maintenance.

Servicing and/or maintenance includes such activities as constructing, installing, setting up, adjusting, inspecting, modifying, or maintaining, equipment and/or machinery.

These activities include but are not limited to the following"

- Lubrication
- Cleaning
- Un-jamming
- Making adjustments
- Tool changes

While performing these activities the employee may be exposed to the unexpected energization or start up of the equipment or release of hazardous energy. It is imperative that equipment be locked or tagged during these procedures.

Lockout equipment (locks/tags) are departmental purchases and property.

Department supervisors will maintain a list of trained "authorized" persons and "affected" persons for that department. The information should be included in the LO/TO policy notebook and provided annually to the Plant Services Office. [Department, Name, Position, Home phone (with permission), "Authorized/Affected/Other".]

WHO WILL LOCKOUT EQUIPMENT

Any individual who is authorized and trained in the facility lockout/tagout program for that piece of equipment/machinery, and follows the written procedures may lockout equipment.

WHEN TO LOCKOUT EQUIPMENT

Equipment should be locked out whenever a person is performing service and/or maintenance and the possibility of personal injury exists due to any of the following conditions:

1. unexpected start up
2. release of stored energy
3. whenever a guard or safety device must be removed
4. when any part of the body is (or could possibly be) placed where it could be caught or injured by moving equipment
5. whenever there is a possibility of someone coming in contact with a live (energized) electrical part
6. whenever someone is going to work on a piece of machinery, whether energized or not, that a person might be caught, struck, pinned, thrown or in some way hurt by the movement of the machine.

WHERE TO PLACE LOCKOUT EQUIPMENT

Locks will be placed at the **energy source:**

1. motor disconnect
2. branch power switch
3. branch power breaker
4. feed line
5. other sources of stored potential or kinetic energy

NOTE: Circuit breakers are an acceptable lockout point for equipment which has no other lockout point. Locking the panel is not an acceptable lockout method, since this locks out all other breakers as well, and prevents energy access.

The on/off switch for a piece of equipment is not a lockout point. The **power source** must be the lockout point.

A TAG MAY BE USED ONLY IF A LOCK CANNOT BE USED BECAUSE OF THE DESIGN OF THE ENERGY ISOLATING DEVICE. THE TAG MUST BE ACCOMPANIED BY A STRAP OR OTHER MEANS THAT WILL HOLD THE TAGGED DEVICE IN THE CLOSED OR OFF POSITION.

TRAINING

To ensure that the purpose and function of the energy control program are understood and knowledge and skills for safe application and use are acquired it is necessary to train employees in the following disciplines.

1. Recognition of applicable hazardous energy sources and means for isolation and control.
2. Instruction in purpose and use of the energy control procedure.
3. Instruction for area employees in the area of controls, prohibition of restarting or re-energizing locked out equipment.

AUTHORIZED EMPLOYEES

Those employees who operate equipment that may be isolated so that servicing may take place, or those who work in areas where servicing will be performed, will be instructed in the purpose and use of the energy control procedure.

OTHER EMPLOYEES

Those employees whose work operations may be in the area where energy control procedures may be used, will be instructed about the procedure, and about prohibition of attempting to restart or re-energize equipment which has been locked-out or tagged-out.

Employees shall also be trained in the following limitations of tags:

1. Tags are essentially only warning devices and do not provide physical restraint, which is provided by a lock.

2. A tag is not to be removed without authorization from the person who is responsible for its placement, and it is never to be bypassed, ignored or otherwise defeated.

3. Tags must be legible and understandable to all area employees to be effective.

4. Tags and their means of attachment will be made of materials which will withstand environmental conditions of the workplace.

5. Tags will be securely attached to energy isolating devices to ensure they will not inadvertently or accidentally be detached.

6. To avoid a false sense of security, the meaning of tags must be understood as part of the overall energy control program.

RETRAINING

It will be necessary to retrain employee under the following circumstances:

1. Whenever there is a change in job assignments, machines, or processes which may present a new hazard, or a change in energy control procedures.

2. When inspection reveals inadequacies in employee's knowledge or ability to use the energy control procedures.

All training should be certified and recorded and kept in the employee's training file located in the departments.

PERIODIC INSPECTION

Periodic inspections of the energy control procedure will be conducted at least annually to ensure the lockout procedure is complete, deficiencies are corrected, and ensure that the lockout/tagout requirements are being followed. These inspections will be documented for

1. The inspections will be performed by the Safety Coordinator or his/her designee other than the one(s) utilizing the control procedure being inspection.

2. Where lockout is used for energy control, the inspection will include a review, between the inspector and each authorized employee, of that employee's responsibilities under the energy control procedure being inspected.

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

The employer shall certify that the periodic inspections have been performed. The certification shall identify the machine or equipment on which the energy control procedure was being utilized, the date of the inspection, the employees included in the inspection, and the person performing the inspection.

PROCEDURES FOR CONTROLLING ENERGY

Lockout/tagout will be performed by authorized personnel only: those individuals who are doing the maintenance and servicing and have been trained in energy control procedures.

All employees who work in the affected area must be notified prior to applying lockout/tagout procedures.

OSHA requires that control of hazardous energy be done according to the following 6 step procedure:

1. **PREPARATION FOR SHUTDOWN:**
   Employees shall have knowledge of the type and magnitude of energy, hazards and methods/means to control the energy prior to turning off the equipment/machinery.

2. **MACHINE/EQUPMENT SHUTDOWN:**
   Shutdown shall be achieved using the procedure established for that machine. Use a normal orderly shutdown to avoid additional or increased hazards.

3. **MACHINE/EQUIPMENT ISOLATION:**
   All isolating devices that are needed to control energy, shall be located and used so as to isolate machine/equipment from the energy sources.

4. **LOCKOUT/TAGOUT DEVICE APPLICATION:**
   Devices are to be affixed by authorized personnel only, a lock is affixed to hold energy isolation devices in the "safe" or "off" position, tagout is to be placed clearly so as to indicate prohibition of operation. It will be placed directly on the energy isolating device or as close as is safely possible.

NOTE: A tag may be used as an energy control device only if a lock cannot be used because of the design of the energy isolating device. The tag must be accompanied by a strap or other means that will hold the tagged device in the off or closed position.

5. **STORED ENERGY:**
   After lockout/tagout has been implemented, all potentially hazardous stored or residual energy shall be relieved, disconnected, restrained or otherwise rendered safe. If the possibility of accumulation of stored energy exists, verification of isolation shall be continued until the task is completed or until the possibility of such accumulation no longer exists.

6. **VERIFICATION OF ISOLATION:**
   An authorized employee shall verify isolation and de-energization of equipment/machinery, prior to the start of work. As a check the authorized employee shall ensure no personnel are in the machinery and start test the equipment by implementing normal starting and operating procedures, to ensure the machinery will not operate and that all residual energy has been controlled.

CAUTION: RETURN THE OPERATING CONTROLS TO THE NEUTRAL POSITION AFTER THE TEST HAS BEEN COMPLETED.

REMOVING A LOCK

When the work is completed and the lock is ready to be removed, contact the operator and the area supervisor and notify them.

When it has been cleared, the lock may be removed after the following checks have been made:

1. The person who placed the lock has gone through and made sure all tools have been removed and equipment is ready to be placed in service.

2. That person then removes the lock and start tests the equipment to ensure it is operable.

RESTORING MACHINERY TO NORMAL OPERATION

After the servicing or maintenance has been completed and the machinery is ready for normal operation, a check of the area must be completed to ensure that:

1. No one is in the area of operation where they could be injured by the machinery or material during operation.

2. All tools and other equipment have been removed.

3. Safeguards have been properly reinstalled.

After all tools have been removed, guards have been replaced and people have been notified and are all clear, the individual who installed the locks/tags must remove the locks and/or tags from the switches, valves, etc. The equipment may now be start-tested and placed into normal service.

PROCEDURE FOR VEHICLE LOCKOUT/TAGOUT

Machinery and vehicles maintained by maintenance mechanic can use the college lockout/tagout procedure. See Appendix A for machinery and motor vehicles maintained by maintenance mechanic. Small Ground's equipment are not listed individually, however, procedures will still apply.

POLICY INVOLVING MORE THAN ONE PERSON

GROUP LOCKOUT IS NOT PERMITTED. Currently, group lockout/tagout procedures are not permitted in Oregon except in the pulp and paper industry (OAR 437-02-312), electrical power generation industry (1910.269), or under s special variance approved by OR-OSHA.

WHAT IS GROUP LOCKOUT?

Group lockout is when qualified people lockout equipment, place equipment lock keys in a box, and place their personal lockout loc on that box. Other workers who work on the equipment place their lock on that box, but not necessarily on the equipment being locked out. The locks will be removed in the reverse order they were placed, and are removed by the individual who placed them there.

Multiple locks on an energy isolating device is not group lockout.

POLICY DEVIATION

The consequences of deviating from this policy can be severe in terms of human suffering and loss. Deviations from this policy will be addressed aggressively, with a goal of determining how to improve the procedures so that no similar deviations will occur.

OUTSIDE CONTRACTORS

Outside contractors are required to comply with all OSHA safe work practices, including Lockout/Tagout. However, they may use the programs established by their employers(s), rather than SOCC programs.

ENERGY CONTROL CHECKLIST

For the authorized person to complete at the time of implementation.

Check off each step in sequence when working on <u>any</u> equipment.

( ) IDENTIFY and LOCATE all sources of power to the equipment.

( ) NOTIFY all affected personnel which equipment is going to be de-energized and worked on.

( ) DISCONNECT the main sources of power by opening the primary power switch, valve, etc. Secondary power sources such as isolation breakers, control panel switches and console buttons are not acceptable, even if they have a key lock.

( ) RELEASE all power sources in the de-energized position with a positive means (such as air over hydraulic, electric over hydraulic, etc.).

( ) SECURE all power sources in the de-energized position with a positive means such as padlock, chain, cable, etc.

( ) BLOCK OR RESTRAIN any machinery or device that can move on its own, with or without a power source. If chains or lines are used, anchor them solidly without winches or “come-alongs”.

( ) AFFIX a lock or warning tag identifying who attached and the date it was attached. EACH person working on a piece of equipment shall affix his own lock or tag.

( ) TEST the equipment prior to working on it by manipulating the operating controls. Return the operating controls to the neutral position.

If the Lockout / Tagout procedure must be interrupted to test a repair or adjustment, the following procedure must be followed:

( ) CONTACT the senior management representative appointed to be in charge of isolating energy sources.

( ) CLEAR tools or other materials from near the equipment.

( ) MAKE SURE no personnel are near the equipment.

( ) VERIFY that the equipment controls are in neutral.

( ) REMOVE the lockout or tagout devices. (See “Before Re-Energizing”, below.)

( ) ENERGIZE equipment.

( ) DE-ENERGIZE equipment. (See the checklist above.)

BEFORE RE-ENERGIZING:

( ) REPLACE barricades, guards, enclosures, etc.

( ) REMOVE all nonessential tools and equipment from the work area. Make sure all the equipment components are back in place.

( ) NOTIFY all affected personnel.

( ) CHECK to make sure all personnel are clear.

( ) VERIFY that the equipment controls are in neutral.

( ) REMOVE your lock or tag only when your work is completed.

( ) THE LAST person to remove his lockout tag is the authorized person and is responsible for re-energizing the equipment.

( ) TURN IN this list to your supervisor when it has been completed.

_____
(Signature of Authorized Employee)

_____ _____
(Date) (Time)

Keep this record _____
(Location)

LOCKOUT / TAGOUT AUTHORIZED/AFFECTED PERSONS

Authorized employees

Those employees who are authorized to implement the lockout/tagout procedure will receive training in recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the work place, and the methods and means necessary to obtain a zero energy state.

Affected employees

Those employees who operate equipment that may be isolated so that servicing may take place, or those who work in areas where servicing will be performed, will be instructed in the purpose and use of the energy control procedure.

Other employees

Those employees whose work operations may be in the area where energy control procedures may be used, will be instructed about the procedure, and about prohibition of attempting to restart or re-energize equipment which has been locked-out or tagged-out.

Level	Job Title	Area
Authorized	Plant Services II	College Wide
Authorized	Dir. of Plant Services	College Wide
Authorized	Public Safety Supervisor	College Wide
Authorized	Lead Custodian	Custodial
Authorized	Custodian	OCCI Custodian
Authorized	Groundskeeper II	Grounds
Authorized	Resident Director	Student Housing
Authorized	Asst. ITS Director	Network Support
Authorized	Network Tech Spec.	Network Support
Authorized	PC Tech I	PC Support
Authorized	Systems Admin.	Network Support
Authorized	Inst. Comp. Lab Supervisor	
Authorized	Media Services Lead Spec.	Media Services
Authorized	Media Services Telec. Tech	Media Services
Authorized	Media Services Spec.	Media Services
Authorized	Inst. Welding/Drafting	Welding Shop
Authorized	Inst. Electronics	Electronics Dept
Authorized	Instructor Art Dept	Art Dept
Authorized	Instructor Chemistry	Bio/Chem Dept.
Authorized	Dean Curry County	Brookings Campus
Affected	Theater Instructor	Hales Center
Affected	Director of OCCI	OCCI
Affected	Instructor Biology	Bio/Chem Dept.
Affected	Softball Coach/Rec. Center	Athletic Dept
Affected	Baseball Coach	Athletic Dept
Affected	Men's Basketball	Athletic Dept
Affected	Women's Basketball	Athletic Dept
Affected	Athletic Director	Athletic Dept
Affected	Dir. Stud. Rec. Center	Student Rec. Center
Affected	Dir Student Housing	Student Housing
Affected	Plant Services Secretary	Plant Services
Affected	Mail & Print Services Supervisor.	Mail & Print Shop
Affected	Duplicating Tech	Print Shop
Affected	Mail/Print Services Asst.	Mail & Print Shop
Affected	Mailroom Asst Pt	Mailroom
Affected	Premier Food Services Mgr.	Cafeteria
Affected	Director of ITS	ITS
Affected	Information Analyst	ITS
Affected	Applications Analyst	ITS
Affected	Web System Admin.	ITS
Affected	Science Lab Asst.	Bio/Chem Dept.

APPENDIX A MACHINERY AND MOTOR VEHICLES (PLANT SERVICES DEPARTMENT)

Motor Vehicles

Shuttles
College vans
Grounds truck
Maintenance trucks

Machinery

Grounds tractors
Maintenance carts
Mail cart
Forklift
Skyjack
Scissors lift
Elevators
Small equipment and appliances
Garbage Disposals
Dishwashers
Guillotine cutter
Pallet jack
Arc welders
Meat slicers
Mixers (hard wired)
Washing machines

1. All vehicles and machinery should be secured out-of-service for repairs needed in the following areas: brakes, fuel leakage, steering, exhaust leakage, collision damage, electrical odors, defect noises or vibration, coolant leaks, loose fasteners, or any further concerns identified by the operator.

2. Secure vehicle or machinery in an area of controlled access. For example, the mechanics repair area.

3. All vehicles have ignition keys. Remove key to Plant Services office. Note vehicle out-of-service on vehicle report schedule, and tag the vehicle steering mechanism.

4. Small machinery and appliances can often be service disconnected from the power source. Next, transport to mechanics area or outside source for repairs; or contact outside repair / maintenance resource(s).

APPENDIX B MACHINERY (ELECTRONICS & WELDING DEPARTMENTS)

Machinery

Forklift
Welding machines
Presses
Lathe
Paint mixing banks
Centrifuge
Water distillation unit
Electric hoists
Computers & printers
Small equipment & appliances
Manufacturing machines
Saws
Iron worker
Drill worker
Press brake
Shears
Paddle stirrers
Hydraulic hoists & lifting equipment
hand tools

1. All machinery should be secured out-of-service for repairs needed in the following areas: brakes, fuel leakage, steering, exhaust leakage, collision damage, electrical odors, defect noises or vibration, coolant leaks, loose fasteners, or any further concerns presented by operator.

2. Secure vehicle or machinery in an area of controlled access.

3. Small machinery and appliances can often be service disconnected from the power source and plug locks installed. Next, transport to mechanics area or outside source for repairs, or contact outside service provider for local repair service.

Machinery

Computers
Printers
Servers
Telephone equipment
Multi-media equipment
Televisions
VCRs
Satellite equipment
Recording equipment
Public address equipment
Sound systems
Amplifiers
UPS

1. Small machinery and appliances can often be service disconnected from the power source. Next, transport to mechanics area or outside source for repairs; or contact outside repair / maintenance resource(s).

2. All machinery should be secured out-of-service for repairs needed in the following areas: brakes, fuel leakage, steering, exhaust leakage, collision damage, electrical odors, defect noises or vibration, coolant leaks, loose fasteners, or any further concerns identified by the operator.

3. Secure machinery in an area of controlled access. For example, the mechanics repair area.

APPENDIX D MACHINERY (HALES CENTER)

Machinery

Shop power tools
Theatrical power dimmer cage
Lighting equipment
Sound equipment
Small equipment & appliances

1. Small machinery and appliances can often be service disconnected from the power source. Next, transport to mechanics area or outside source for repairs; or contact outside repair / maintenance resource(s).

2. All machinery should be secured out-of-service for repairs needed in the following areas: brakes, fuel leakage, steering, exhaust leakage, collision damage, electrical odors, defect noises or vibration, coolant leaks, loose fasteners, or any further concerns identified by the operator.

3. Secure machinery in an area of controlled access. For example, the mechanics repair area.

APPENDIX E MACHINERY (OREGON COAST CULINARY INSTITUTE)

Machinery

Commercial Ovens
Dishwashers
Mixers
Broilers
Small equipment & appliances

1. Small machinery and appliances can often be service disconnected from the power source. Next, transport to mechanics area or outside source for repairs; or contact outside repair / maintenance resource(s).

2. All machinery should be secured out-of-service for repairs needed in the following areas: brakes, fuel leakage, steering, exhaust leakage, collision damage, electrical odors, defect noises or vibration, coolant leaks, loose fasteners, or any further concerns identified by the operator.

3. Secure machinery in an area of controlled access. For example, the mechanics repair area..