Lock-out Tag-out Plan

Lock-out / Tag-Out Plan

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CONTROL OF HAZARDOUS ENERGY

Lock-out/Tag-out

1. POLICY

It is the policy of Luna Community College to implement and maintain a successful Lockout/Tagout program, in order to protect our people, property and processes.

2. PURPOSE

To establish a program and utilize procedures for affixing appropriate lockout/tagout devices, and to otherwise disable machines or equipment from unexpected energization, start-up or release of stored energy in order to prevent needless deaths or serious injuries.

3. SCOPE

Employees can be seriously or fatally injured if machinery they service or maintain unexpectedly energizes, starts-up, or release stored energy. This program covers the servicing and maintenance of machines and equipment in which the unexpected energization or release of stored energy could cause injury to employees or outside personnel. Servicing and/or maintenance which take place during normal production operations are covered by this standard if:

a) An employee is required to remove a guard or bypass a guard or other safety device.

b) An employee is required to place any part of his or her 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 operation cycle.

Note: The exception to paragraph (b) is: Minor tool changes and adjustments, and other minor servicing activities, which take place during normal production operations, are not covered by this program if they are routine, repetitive, and integral to the use of the equipment for production, provided that the work is performed using alternative measures which provide effective protection.

This program does not apply to the following:

a) Work on cord and plug connected electric equipment for which exposure to the hazard of unexpected energization 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.

b) Hot tap operations involving the transmission and distribution of substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines.

4. GENERAL PROCEDURES

Separate procedures are relevant for the application of control devices and removal of control devices. These procedures are defined in more detail below.

5. APPLICATION OF CONTROL PROCEDURE

Energy isolation and lockout/tagout are to be applied only by trained employees authorized to perform service or maintenance. The goal of this control procedure is to achieve "Zero Energy State" and "Zero Mechanical State". The 8-step control procedure listed below must be followed.

1. NOTIFICATION - Notify all affected employees that servicing or maintenance is required on a machine or piece of equipment and that the machine or equipment must be shut down and locked out to perform the servicing.

2. PREPARATION - Authorized employees shall be knowledgeable of and use the energy isolation procedures to prepare for shutdown. This procedure includes the identification of all energy sources (types, magnitudes), the hazards of the energy to be controlled, and the method (energy isolation devices) to control energy.

3. EQUIPMENT SHUTDOWN - Shut down the system by using the proper shutdown procedure. Insure that no personnel are endangered during the shutdown.

4. EQUIPMENT ISOLATION - De-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s). Be sure to isolate *all* energy sources, including secondary power supplies. Energy can come from many different sources including: electrical, mechanical, hydraulic, pneumatic, chemical, and thermal.

5. ISOLATION DEVICES - All energy isolation devices are to be locked out with the use of an attached lock, and tag. The tag must display the authorized person's name. Only standardized devices supplied by the company are to be utilized. More than one employee can lock out a single energy device by using a multiple-lock hasp. Use an appropriately designed lockout providing "attachment device" if a lock cannot be placed directly on the energy control. The authorized employee that applied the lock shall maintain the key (to the lock) in his or her possession during the time the lockout is under their control. The MAINTENANCE SUPERVISOR shall be responsible for the integrity of the lockout, in the event of shift or personnel changes. The integrity of the lockout/tagout protection must not be interrupted!

6. STORED ENERGY - All potentially hazardous stored or residual energy shall be dissipated and restrained. *This includes stored energy in capacitors, springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure etc.* The dissipation process shall include methods such as grounding, repositioning, blocking, bleeding down etc.

7. VERIFICATION - Ensure that the equipment is disconnected from the energy source(s) by first checking that no personnel 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. This process is otherwise known as the "Tryout". *Caution: Return operating controls to neutral or "off" position after verifying the isolation of the equipment.*

8. SUCCESSFUL VERIFICATION - The machine or equipment is now effectively locked out.

6. RELEASE FROM CONTROL PROCEDURE

When the servicing or maintenance is completed and the machine or equipment is ready to return to normal operating condition, the following 5 steps must be taken.

1. AREA SURVEY - Check the machine or equipment and the immediate area around the machine or equipment to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.

2. PREPARATION - Check the work area to ensure that all employees have been safely positioned or removed from the area.

3. VERIFICATION - Verify that the controls are in neutral or off position.

4. DEVICE REMOVAL - Remove the lockout devices and reenergize the machine or equipment. Removal of the lockout device shall be removed from each energy isolating device by the employee who applied the device. When the authorized employee who applied a lockout device is not available to remove it, that device may be removed only under the agreement and direction of the Maintenance Supervisor *(ideally list two management representatives)*. It is also necessary to adhere to all of the following minimum criteria:

a) Verification that the authorized employee who applied the device is not at the facility.

b) Making all reasonable efforts to contact the authorized employee to inform him/her that his/her lockout out has been removed.

c) Ensuring that the authorized employee has this knowledge before he/she resumes work at that facility. *Note: The removal of some forms of blocking may require re-energization of the machine before safe removal.*

5. NOTIFICATION - Notify all affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use. (Energy must not be restored to any equipment, until this notification has been successfully completed.)

7. SPECIFIC PROCEDURES

The General Procedures listed (in the previous section) are supplemented, where applicable, with equipment or machine specific procedures listed on a separate Lockout/Tagout Data Sheet (see Appendix A for example).

Note: Equipment or machine specific procedures are not required or provided when all of the following exist:

1. The machine or equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees.

2. The machine or equipment has a single energy source which can be readily identified and isolated.

3. The isolation and locking out of that energy source will completely deenergize and deactivate the machine or equipment.

4. The machine or equipment is isolated from that energy source and locked out during servicing or maintenance.

5. A single lockout device will achieve a locker-out condition.

6. The lockout device is under the exclusive control of the authorized employee performing the servicing or maintenance.

7. The servicing or maintenance does not create hazards for other employees.

8. In utilizing this exception, no accidents have occurred involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.

8. TRAINING & RETRAINING

Training shall be provided to ensure that the purpose and function of the energy control program are understood by employees and that the knowledge and skills required for the safe application, usage, and removal of the energy controls are acquired by employees. All training and retraining requirements shall be conducted and fulfilled by Maintenance Supervisor and/or Life Safety Coordinator.

Training shall include the following:

a) Each authorized employee shall receive training in the recognition of applicable hazardous energy sources, the type and magnitude of the energy available in the workplace, and the methods and means necessary for energy isolation and control.

b) Each affected employee shall be instructed in the purpose and use of the energy control procedure.

c) All other employees whose work operations are or may be in an area where energy control procedures may be utilized, shall be instructed about the procedure, and about the prohibition relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out.

d) Supervisors shall receive training on their supervisory responsibilities.

Retraining shall include the following:

a) Retraining shall be provided for all authorized and affected employees whenever there is a change in their job assignments, a change in machines, equipment or process that present a new hazard, or when there is a change in the energy control procedures.

b) Additional retraining shall also be conducted whenever a periodic inspection reveals, or there is reason to believe that there are deviations from or inadequacies in the employees' knowledge or use of the energy control procedure.

c) The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures as necessary.

d) The trainer shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain each employee's name and dates of training.

9. ENFORCEMENT

Enforcement is necessary to make sure workers do their part in protecting their own safety.

a) In additional to the required annual inspections, informal or random inspections will be conducted regularly as a part of the supervisory responsibilities of the Life/Safety Coordinator. These inspections shall verify that energy control procedures are being carried out.

b) Enforcement of safety rules shall be fair and uniform.

c) The penalties for failure to comply with our energy control procedures will result in disciplinary steps taken against the non-complying employee, (up to and including immediate termination).

10. PROGRAM EVALUATION & MAINTENANCE

At least annually a review of the complete energy control program and an inspection of all equipment or machine specific lockout/tagout procedures shall be conducted by the Life/Safety Coordinator *(This person must be someone other than the authorized person who normally performs the lockout.)* When additions or modifications are made with regard to facilities, equipment or machinery it shall be the responsibility of the Facilities Director to provide or update the Lockout/Tagout Date Sheet, where applicable, and insure that timely and accurate information is provided before releasing the equipment or machine into service.

11. OUTSIDE PERSONNEL

Whenever outside servicing personnel (contractors, etc.) are to be engaged in activities covered by the scope and application of this program, Luna Community College and the outside employer shall inform each other of their respective lockout or tagout procedures. The outside employer shall meet the minimum requirements set forth by Luna Community College. If deviations in our normal procedures are approved, adequate communication of such changes must occur with all employees affected, prior to initiating the lockout procedure.

Appendix A

Lock-out / Tag-out Data Sheet

Equipment Description			
Equipment	**Manufacturer**	**Model #**	**Serial #**

Equipment Actuation Control:

Step No.	**Hazardous Energy**		**Isolation Device**		**Control Device**		**Additional Hardware Required**
	Type	**Magnitude**	**Type**	**Location**	**Lock & Tag**	**Tag Only**	
	Additional Measures:						

Authorized Employees		

Document Control			
Verified By:	**Date**	**Issued:**	**Date**

Appendix A - EXAMPLE

Lock-out / Tag-out Data Sheet

Equipment Description			
Equipment	**Manufacturer**	**Model #**	**Serial #**
Automatic Drill Press	*Clausing*	*CL - 2500*	*CSN – 5658745*

Equipment Actuation Control: *Single button (operator controlled) Actuation switch on the control panel. A "limit switch" is used as an automatic end of cycle and return to top*

Step No.	**Hazardous Energy**		**Isolation Device**		**Control Device**		**Additional Hardware Required**
	Type	**Magnitude**	**Type**	**Location**	**Lock & Tag**	**Tag Only**	
1	*Elec.*	*120 volt*	*Elec. Disc.*	*Labeled ED1*	*X*		
2	Pneumatic	50 psi	3 way valve	Tagged Pv1	X		
	Additional Measures:						
2	*When closed the 3 way valve releases all stored energy from the equipment*						

Authorized Employees	*John Doe*	*Jane Doe*
Frank Smith		

Document Control			
Verified By:	**Date**		**Date**
John Doe	*10/31/09*	**Issued:**	
Frank Smith	*10/31/09*		