1.0 Purpose and Applicability

1.1 It is the policy of the University of Pennsylvania in coordination with the Office of Environmental Health and Radiation Safety to provide the University community with a safe and healthful environment. This program is designed to ensure that employees place machinery, equipment or systems that are capable of causing injury by energizing, unexpected starting or releasing stored energy into a safe condition and that the safe condition is maintained for the duration of the task**.**

1.2 This program applies to all University of Pennsylvania employees.

2.0 Scope

2.1 Effective hazardous energy control procedures will protect employees potentially exposed to unexpected energizing or release of stored energy that could cause injury during the servicing or maintenance of machines, equipment or systems, as well as while working on or near exposed de-energized electrical conductors and parts of electrical equipment.

2.2 This program does not apply to work on cord and plug connected electrical equipment where exposure to the hazards of unexpected energization or startup of the equipment is controlled by unplugging of the equipment from the energy source and by the plug being under the exclusive control (within arm's reach and line of sight) of the employee performing the servicing or maintenance.

3.0 Definitions

3.1 **Affected Employee** – An employee whose job requires him/her to operate or use a machine, equipment or system on which servicing or maintenance is being performed under lockout/tagout (LOTO), or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

3.2 **Authorized Employee** – An employee who locks out or tags out machines, equipment or systems in order to perform servicing or maintenance on that machine, equipment or system. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this program.

3.3 **Authorized Locks and Tags -** Locks and tags that are used to ensure the safety of the authorized employees performing servicing and maintenance of machines, equipment or systems. Servicing or maintenance may not begin until these devices are applied to the energy isolation device(s). These locks and tags shall not be used for any other purpose. The locks shall be singularly keyed and the authorized employees shall retain the keys to individual locks. The keyed lock shall be red in color. The recommended lock is Master Lock Model 410 Red. The print and format of tags shall be standardized and will warn against hazardous conditions if the machine, equipment or system is energized. The tag shall read "**Danger – Do Not Operate**" and shall have black lettering with a white background. The tag shall have an unlocking strength of at least 50 pounds. Locks and tags shall clearly identify the authorized employee applying the devices.

3.4 **Energy Isolating Device -** A mechanical device that physically prevents the transmission or release of energy, including but not limited to the following: a manually operated electrical circuit breaker, a disconnect switch, a manually operated switch by which the conductors of a circuit can be disconnected from all ungrounded supply conductors, and, in addition, no pole can be operated independently; a line valve; a block; and any similar device used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices. For lockout/tagout purposes, isolating devices that provide visible indication of the device's position are desirable.

3.5 **Hazardous Energy -** Any electrical, mechanical, hydraulic, pneumatic, chemical, nuclear, thermal, gravity or other energy that could cause injury to personnel.

3.6 **Lead Authorized Employee** – The designated authorized employee who shall be responsible for lockout/tagout of each energy isolating device and providing a single location or device that allows each member of the group to apply their individually-controlled lock or tag in a group lockout/tagout task.

3.7 **Lockout Device -** A device that utilizes a positive means such as a lock that secures an energy isolating device in a positon that prevents the energizing of a machine, equipment or system. Other lockout devices include dead ends (blanks), bolted slip blinds, valve hand wheel covers, and chains/lock.

3.8 **Lockout Fixture** – An appliance that accommodates one or more locks to secure an energy isolating device.

3.9 **Lockout/Tagout (LOTO) –** The placement of a lock/tag on the energy isolating device in accordance with an established procedure, indicating that the energy isolating device shall not be operated until removal of the lock/tag in accordance with an established procedure. (The term "lockout/tagout" allows the use of a lockout device, a tagout device or a combination of both.)

3.10 **Safe Condition Check (Verification of De-Energizing) -** The inspection or test of a machine, equipment or system performed by the authorized employee to ensure that the hazardous energy or materials are controlled to prevent injury or accident. **Note: This is an essential element of all hazardous energy control programs and procedures which ensures the safety of all potentially exposed personnel.**

3.11 **Servicing/Maintenance** - Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying and maintaining and/or servicing machines, equipment or systems. These activities include lubrication, cleaning or unjamming of machines, equipment or systems and making adjustments or tool changes where the employee may be exposed to the unexpected energization or start-up of the machine, equipment or system or release of hazardous energy.

3.12 **Supervisor** - One who has the responsibility of overseeing lockout/tagout activities.

3.13 **Tag -** A "Danger – Do Not Operate" Tag, which can be securely fastened to an energy isolating device with an unlocking strength of 50 pounds, to indicate that the energy isolating device and the machine, equipment or system being controlled cannot be operated until the tag is removed. Tags are essentially warning devices affixed to energy isolating devices and do not provide the physical restraint of a lock.

4.0 Responsibilities

4.1 **The Executive Director of Environmental Health and Radiation Safety or Designee** - is responsible for approving and ensuring compliance with this procedure.

4.2 **Supervisors** - are responsible for initiating and controlling this procedure. Ensure that the proper procedures for isolating all energy sources have been implemented. Identify personnel required to complete Penn's Control of Hazardous Energy (Lockout/Tagout) training.

4.3 **Authorized Employees –** Shall be responsible for performing hazardous energy control in compliance with this program, related procedures and the training provided to them.

5.0 Control of Hazardous Energy (Lockout/Tagout) Principles

This program establishes the requirements for the lockout/tagout of energy isolating devices.

5.1 It is mandatory that all University of Pennsylvania personnel comply with this Control of Hazardous Energy (Lockout/Tagout) Program and related procedures.

5.2 No individual shall attempt to start, energize, use or operate machinery, equipment or a system that has been locked and tagged out after the safe condition check has been completed.

5.3 No individual, other than the authorized employee who installed the lockout/tagout device and tag, shall attempt to remove them, except as noted in Section 7.

5.4 Lockout/tagout equipment shall be stored in the appropriate shops or local locations where it will be used. Some authorized employees may maintain position of personal locks.

5.5 The "Danger- Do Not Operate" tag signifies that there is an authorized employee working on a machine, equipment or system and it was installed by that task's authorized employee prior to starting work and will be removed by that authorized employee when his/her work is completed.

5.6 The "Danger – Do Not Operate" tag is reserved for the exclusive use of the authorized employee identified on that tag. Tags must be legible and understandable by all authorized and affected employees whose work operations are, or may be, in the area in order to be affective. Tags and their means of attachment must be made of materials which will withstand the environmental conditions encountered in the workplace.

5.7 No person shall remove a lockout device or tag when an unsafe condition exists until they have corrected the condition or another person has installed a lockout device or tag.

5.8 Affected employees shall be notified by the University of Pennsylvania (Penn) or the authorized employee of the application and removal of lockout devices or tags. Notification shall be given before the controls are applied and after they are removed from the machine, equipment or system.

5.9 A check valve cannot be used as an energy isolation device.

5.10 Whenever outside personnel (contractors, etc.) are to be engaged in activities covered by the scope and application of this program, Penn and the outside employer shall inform each other of their respective control of hazardous energy procedures. Penn shall ensure that its employees understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

5.11 When electrical system grounds need to be applied, they shall be the last devices applied and the first devices removed in the application of control of hazardous energy (lockout/tagout). Only qualified electrical personnel shall apply grounding devices.

5.12 All employees shall receive the appropriate level of training based upon their control of hazardous energy (lockout/tagout) duties (i.e., Authorized, Affected).

5.13 Any employee who observes <u>any</u> apparent violation of this program or related procedures shall immediately notify their supervisor.

6.0 Procedures

A specific written energy control procedure for all applicable machines, equipment or systems is developed and shall be followed before beginning any servicing or maintenance work.

6.1 Detailed Control of Hazardous Energy (Lockout/Tagout) Procedure

6.1.1 The authorized employee shall identify all potential sources of hazardous energy. The authorized employee shall develop a specific written energy control procedure for isolating the machine, equipment or system if one does not already exist. The written procedure shall be documented on one of the equipment energy control procedure forms. (Attachment A or B).

6.1.2 The authorized employee shall obtain the necessary lockout/tagout equipment from the appropriate supervisor or storage location.

6.1.3 The authorized employee shall place the machine, equipment or system in a zero energy state by performing a normal shut down and then following the equipment energy control procedure.

6.1.4 Locks and tags shall be installed on the energy isolation devices/fixtures in the proper order listed on the equipment energy control procedure form. After removing each key from the lock, the authorized employee will place the keys into the lockbox which is used to prevent them from being misplaced. The authorized employee shall then place his/her lock and tag on the lockbox and lock it with his/her personal key. The authorized employee's personal key shall be kept with him/her. In addition, a designated supervisor may put his/her lock on the lockbox. This would

only be completed in order to secure the lockbox if an employee left the jobsite and another employee took control of the job. The new employee would then be required to put his/her lock on the lockbox and proceed to follow all of the required control of hazardous energy (lockout/tagout) procedures stated in this program.

6.1.5 When all energy isolation devices have been properly de-energized and locked/tagged out, the authorized employee shall perform the necessary safe condition check(s) to ensure that all hazardous energy has been dissipated and controlled (Example: pushing local start buttons, throwing switches, etc.). The task can now begin.

6.1.6 When the task is complete, the authorized employee shall make sure that personnel are a safe distance from all machines, equipment or systems before energizing.

6.1.7 Lockout/tagout devices removal. The authorized employees will remove their personal locks from the lockbox and then remove all locks and tags from all energy isolation devices. Upon completion, the authorized employees' locks shall be placed back into the lockbox. The machine, equipment or system will be energized in the proper order noted on the control of hazardous energy (lockout/tagout) procedure. The machine, equipment or system will then be put back into service as required.

6.2 **Application of Control:**

The written equipment energy control procedure must include the following steps for proper control and isolation of energy:

6.2.1 **Notify Affected Employees** - Affected employees must be notified that work will be performed on the machine, equipment or system.

6.2.2 **Preparation for Shutdown** - the authorized employees shall have knowledge of the type and magnitude of the energy, the hazards to be controlled and the method or means to control the energy.

6.2.3 **Machine, Equipment, or System Shutdown** - the machine, equipment or system shall be turned off or shut down using normal procedures to avoid any increased risk to the employee(s).

6.2.4 **Machine, Equipment or System Isolation** - all energy isolating devices/fixtures that are needed to control the energy shall be physically located and operated in a manner to isolate the machine, equipment or system from the hazardous energy source.

6.2.5 **Application of Lockout/Tagout Devices** - lock and tag must be applied to the energy-isolating device. **Each person** working on a machine, equipment or system must apply a lock and tag. For example, if a qualified electrician is required to isolate the equipment but will not be the person performing the task, the electrician will install a lock on the lockout device/fixture as well as the person(s) performing the task.

6.2.6 **Dissipate Energy -** After applying locks/tags to the energy isolation devices, all potentially hazardous stored or residual energy must be relieved, blocked, bled, restrained or rendered safe.

6.2.7 **Verification of Isolation** - prior to starting work on machines, equipment or systems that have been locked and tagged, the authorized employee(s) shall, if possible, verify that all energy sources have been isolated by attempting to operate the machine, equipment or system using local start buttons, switches, valves, etc. then returning them to the off/neutral position once the verification of isolation has been completed.

6.2.8 **Release From Lockout/Tagout Control -** Prior to restoring energy to the machine, equipment or system, remove all tools, ensure all guards are installed and that affected employees are clear and informed that energy to the equipment will be restored. All locks/tags can then be removed and the energy restored.

6.3 **Control of Hazardous Energy (Lock-Out/Tag-Out) Between Shifts:**

Employees working on a machine, equipment or system must utilize their own lock that was provided and adhere to Penn's Control of Hazardous Energy (Lockout/Tagout) program at all times, but if an employee's shift ends prior to completion of the work he/she must follow the procedure below:

6.3.1 The lock and tag of the employee that is leaving must remain on the equipment until the lock and tag of the incoming employee is placed on the energy-isolating device.

6.4 **Exceptions to Written Control of Hazardous Energy (Lockout/Tagout) Procedures**

There are occasions where specific written control of hazardous energy (lockout/tagout) procedures are not required. They are not required when ALL of the following elements exist:

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

6.4.2 The machine, equipment or system has a single energy source that can be readily identified and isolated.

6.4.3 The isolation and locking out of the single energy source will completely deenergize and deactivate the machine, equipment or system.

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

6.4.5 A single lockout device will achieve a locked-out condition.

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

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

6.4.8 Penn, in utilizing this exception, has not experienced an incident or accident involving the unexpected activation or reenergizing of the machine, equipment or system during servicing or maintenance.

6.5 **Multiple Personnel Protection (Group Lockout/Tagout)**

6.5.1 When multiple energy isolating devices protecting the affected work activity are secured by lockout/tagout but are not applied directly by each authorized individual, a designated individual shall be responsible for lockout/tagout of each energy isolating device and providing a single location or device that allows each member of the group to apply their individually-controlled lock or tag. This individual is designated as the lead authorized employee.

6.5.2 The lead authorized employee shall have all of the duties as stated in Sections 6.1 & 6.2 and has the responsibility as the supervisor to ensure continuity of protection for all authorized employees and to coordinate affected trades. The lead authorized employee shall ensure all locks and tags are properly installed on the energy isolating devices by visually checking all energy isolation points.

6.5.3 The lead authorized employee shall use the Control of Hazardous Energy Group Roster (Attachment C) to list all of the other authorized employees on the group lockout with whom he/she is working

6.5.4 Each authorized employee shall put his/her own lock on the lockbox before beginning work.

6.5.5 The lead authorized employee cannot remove any locks or tags from the energy isolation devices unless all other authorized employees have first removed their locks and tags from the lockbox. If there is a need to remove a lock and tag from the lockbox because an authorized employee is not on site, then the procedures listed in Section 7.0 of this program must be followed.

6.6 **Energy Isolation Devices Not Capable of Accepting a Lock**

6.6.1 If an energy isolation device is physically incapable of accepting a lock, a tagout system which will offer full employee protection similar to that of a lockout system shall be used.

6.6.2 The tagout system includes all of the steps of this control of hazardous energy (lockout/tagout) program except the actual use of a lockout device on that particular energy isolation device. Additional means to be considered as a part of the demonstration of full employee protection shall include the implementation of additional safety measures such as the removal of an isolating circuit element, blocking of a controlling switch, opening of an extra disconnecting device, or the removal of a valve handle to reduce the likelihood of inadvertent energizing.

7.0 Removal of Authorized Employee Locks and Tags When Off-site

There may be times when the control of hazardous energy (lockout/tagout) task needs to be closed out to place a machine, equipment or system back into service when an authorized employee still on the lockout/tagout task is off-site and cannot be located. Removal of an authorized employee lock and tag without the authorized employee's signature will require a review by the authorized employee's direct supervisor.

7.1 The authorized employee's supervisor will attempt to reach the authorized employee to determine if the control of hazardous energy (lockout/tagout) task may be closed. If the authorized employee indicates that the task may be closed, the authorized employee must return to the site to follow the normal lockout/tagout energy isolation device removal procedure.

7.2 If the authorized employee cannot be contacted or cannot return to the site, the authorized employee's supervisor may authorize removal of the authorized employee from the control of hazardous energy (lockout/tagout) task.

7.3 If the supervisor authorizes the removal of the authorized employee's lock(s) and tag(s) all potentially affected employees shall be notified.

7.4 The authorized employee will be contacted by his/her supervisor immediately upon their return to work, to notify them that they have been removed from the control of hazardous energy (lockout/tagout) task.

8.0 Contractors

Penn and the outside contractor must inform each other of their respective control of hazardous energy (lockout/tagout) procedures. The responsibility for training outside contractor employees lies with their employer. Penn shall ensure that its employees understand and comply with the restrictions and prohibitions of the outside employer's control of hazardous energy program. Prior to the contractor performing work, a designated point of contact will be made within the contractor's organization for the purpose of interfacing and coordinating the control of hazardous energy (lockout/tagout) procedures.

9.0 Control of Hazardous Energy (Lockout/Tagout) Periodic Inspections

Penn shall perform a periodic review of its Control of Hazardous Energy (Lockout/Tagout) program and procedures for ensuring that the requirements of 29 CFR 1910.147 - The Control of Hazardous Energy (Lockout/Tagout) are being met. A written report shall be made documenting inspection findings, results, and as appropriate any corrective actions taken for control of hazardous energy (lockout/tagout) program deficiencies.

9.1 Periodic inspections of Penn's Control of Hazardous Energy (Lockout/Tagout) Program and procedures shall be conducted at least annually.

9.2 Periodic inspections shall be scheduled and documented in writing (See Attachment D).

9.3 A person trained as an authorized employee must perform the periodic inspection. The representative may not review any control of hazardous energy (lockout/tagout) task that they currently have responsibility for. The representative must review the procedures being implemented by and under the

control of other authorized employees. The inspection shall include a review of each authorized employee's responsibilities under the program and related procedures. Written documentation of findings shall be produced and completed documents will be retained by EHRS or the School/Center, per Section 11. Periodic inspection documents shall be maintained for at least three years.

9.4 An inspection of various control of hazardous energy (lockout/tagout) tasks that have been closed out will be inspected to verify that they have been properly completed and closed out. Written documentation of findings shall be produced and completed documents shall be retained by FRES, EHRS or the School/Center.

9.5 Active control of hazardous energy (lockout/tagout) tasks will be visually verified to ensure that all locks and tags are in place. The required control of hazardous energy (lockout/tagout) documents shall be verified to have been prepared in accordance with Penn's Control of Hazardous Energy (Lockout/Tagout) Program. Written documentation of findings shall be produced and completed documents will be retained by FRES, EHRS or the School/Center, per Section 11.

9.6 If during the inspection a discrepancy or procedural inadequacy is found, steps shall be taken immediately to determine the reason for, and the corrective action necessary to remedy the discrepancy. Written documentation of findings shall be produced and completed documents will be retained by FRES, EHRS or the School/Center, per Section 11.

9.7 Discrepancies or noncompliance with Penn's Control of Hazardous Energy (Lockout/Tagout) Program and procedures will be corrected as soon as possible but no later than 60 days from the date of identification. The appropriate individuals shall be retrained if a discrepancy or inadequacy is identified.

10.0 Personnel Control of Hazardous Energy (Lockout/Tagout) Training

Employees shall be trained so that they understand the purpose and function of the Control of Hazardous Energy (Lockout/Tagout) program and procedures. Employees shall also be trained so that they understand the purpose, contents and requirements of 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

10.1 Authorized Employees shall receive training in the recognition of sources of hazardous energy, the types and magnitude of hazardous energy and the means and methods of isolation and control.

10.2 Affected Employees shall be instructed on the purpose and use of the Penn's Control of Hazardous Energy (Lockout/Tagout) Program.

10.3 Employee retraining will be conducted when there are changes in job assignment; machines, equipment or processes; or in Penn's Control of Hazardous Energy (Lockout/Tagout) Program and procedures. Retraining will also be conducted when a periodic inspection of the effectiveness of this procedure reveals inadequacies in employee knowledge or performance.

10.4 A record of all training and retraining shall be maintained. The training record shall include the name of the employee, level of training, name of the instructor and the date of the training. EHRS shall upload training records into Penn's learning management system.

11.0 RECORDKEEPING

11.1 EHRS shall maintain Control of Hazardous Energy (Lockout/Tagout) Program training records.

11.2 FRES-related periodic inspections shall be maintained by EHRS.

11.3 School or Center-related periodic inspections shall be maintained by the school or center and EHRS.

12.0 REFERENCES

12.1 29 CFR 1910.147, The Control of Hazardous Energy (Lockout/Tagout).

12.2 29 CFR 1910.333, Personal Protective Equipment.

12.3 29 CFR 1926.417, Lockout and Tagging Circuits.

ATTACHMENT A – EQUIPMENT ENERGY CONTROL PROCEDURE 1

Procedure ID:	Developed By:	Reviewed By:	Revised By:

Task:		Equipment ID:		
Building:	Area:	Rev:	Date:	Origin Date:
# Isolation Points to be Locked & Tagged.	Task Description/Notes			

Photo 1	Photo 2	Photo 3

ALWAYS PERFORM NORMAL SHUT DOWN BEFORE LOCKING OUT DISCONNECTS

ID	Source	Device	Location	Method	Check
E-1	Electrical				
M-2	Mechanical				
W-1	Hydraulic				
C-1	Chemical				
P-1	Pneumatic				
K-1	Kinetic Entergy				
T-1	Thermal				
G-1	Gravity				

OPENING A GUARD DOES NOT CONSTITUTE A LOCKOUT
Any machine modifications must be shown in procedure. Contact EHRS to update procedure.

Equipment Specific Lockout-Tagout Procedure		
#	**STEP**	**DESCRIPTION**
1	Notify	Notify all affected employees that servicing or maintenance is required on a machine or equipment and that the machine or equipment must be shut down and locked out to perform the servicing or maintenance.
2	Review Lockout Procedure	The Authorized Employee shall refer to the Penn's lockout procedure to 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	Perform Machine Stop	If the machine or equipment is operating, shut it down by the normal stopping procedures (depress the stop button, open switch, close valve, etc.). Reference operating procedure for normal shutdown.
4	Isolate Energy	Follow graphical lockout-tagout procedure from top to bottom to de-activate the energy isolating device(s) so that the machine or equipment is isolated from the energy source(s). Note: It may be necessary to dissipate the non-lockable energy sources before isolating the lockable energy sources (i.e. lower machine to lowest position before locking out).
5	Lockout Energy	Perform all lockout-tagout procedure steps from top to bottom starting with page 1. Lockout & tagout of energy isolating device(s) with assigned individual lock(s) and tag(s).
6	Dissipate Energy	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 methods such as grounding, repositioning, blocking, bleeding down, etc.
7	Attempt Restart TRY STEP	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. **Caution: Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.**

RESTORE TO SERVICE SEQUENCE		
#	**STEP**	**DESCRIPTION**
1	Check Machine	Check the machine or equipment and the immediate area around the machine to ensure that nonessential items such as parts and tools have been removed and that the machine or equipment components are operationally intact including replacement of guards, interlocks, etc.
2	Check Area	Check the work area to ensure that all employees have been safely positioned or removed from the area.
3	Verify Machine	Verify that the controls are in neutral.
4	Remove Lockout	Remove the locks, tags and lockout devices and reenergize the machine or equipment. Reverse the order of all lockout-tagout procedure steps from bottom to top starting from the last page. Note: The removal of some forms of blocking may require reenergization of the machine before safe removal.
5	Notify	Notify affected employees that the servicing or maintenance is completed and the machine or equipment is ready for use.

Scope: Utilize this procedure for all scheduled PM shutdowns, any maintenance task that requires you to place your body in harm's way of the equipment or if you have to leave the area while the equipment is in service.

ATTACHMENT B – EQUIPMENT HAZARDOUS ENERGY CONTROL PROCEDURE 2

Equipment Hazardous Energy Control Procedure Lockout/Tagout Program			
Equipment:		Serial #:	
Manufacturer:		Location:	
Model:		Asset #:	

Energy		**Location**	**Magnitude**	**Control Method**
Electrical:				
Pneumatic:				
Hydraulic:				
Gravity:				
Mechanical:				
Thermal:				
Chemical:				
Other:				

Potential Hazards:

Remember to Release all Stored Energy

Shutdown Procedure:	**Startup Procedure:**

ATTACHMENT C – GROUP ROSTER

CONTROL OF HAZARDOUS ENERGY GROUP ROSTER

The lead authorized worker signature indicates that the lockout is complete and the system is safe for work.

Continuity of protection: The lead authorized worker must install lock and sign on before start of any work under this procedure, and must stay locked on until all work is complete and all authorized employees have removed their locks and signed off. If a group lockbox is used, the lead authorized employee must apply a group lockout master lock to the group lockbox. The group lockout master lock is applied before start of any work, and must remain installed until all work is complete and each authorized employee has removed his/her lock.

If necessary, lead authorized worker duties may be reassigned to another authorized employee. All employees performing work under this energy control procedure must be informed of the reassignment.

Energy Control Procedure ID:	**Building:**	**Task:**
Lead authorized employee(s) *(print name)*	**Lock Installed** *(signature and date)*	**Lock Removed** *(signature and date)*
Authorized employee(s) *(print name)*	**Lock Installed** *(signature and date)*	**Lock Removed** *(signature and date)*

Notes:

ATTACHMENT D – PERIODIC REVIEW FORM

Periodic Review Form - Hazardous Energy Control (LOTO)

Required Frequency: Annually

To meet OSHA requirements at least one person who performs the Hazardous Energy Control Assessment must be on the location's list of Authorized employees.

LOCK-OUT/TAG-OUT PERIODIC REVIEW FORM

This form shall be used to verify that a lock-out/tag-out procedure is correct and current. The review shall certify that the procedure is utilized properly and shall be performed at least annually.

Employee Name: _____ Date: _____

Trade/Shop_____

Equipment: _____ Location: _____

Check all energy sources that were locked and tagged out:

1. Electrical _____
2. Pneumatic _____
3. Hydraulic _____
4. Thermal _____
5. Mechanical _____
6. Chemical _____
7. Other _____

Were all energy sources de-energized according to the machine specific procedure?
_____ Yes _____ No
Are the written procedures adequate in controlling all energy sources?
_____ Yes _____ No
Were the results of this review covered with the employee(s)?
_____ Yes _____ No
List steps taken to correct deviations or deficiencies with this procedure:

_____

_____

Reviewing Employee: _____

FRES employees shall return completed forms to the **FRES Director of Safety for review**.
All other employees shall return completed forms to **EHRS**.
FRES/EHRS shall retain this form on file for one (1) year.