CONTROL OF HAZARDOUS ENERGY PROGRAM (LOCKOUT/TAGOUT)

CAMPUS ENVIRONMENT AND OPERATIONS

Revised April, 2006

For more information regarding this or other programs, contact the Associate Director for Maintenance, Campus Environment and Operations at (330) 672-2345.
# TABLE OF CONTENTS

DEFINITIONS ..................................................................................................................................... 3-4

PROGRAM POLICY & PROCEDURES ............................................................................................. 5-9

SPECIAL REQUIREMENTS ........................................................................................................... 10-14

APPENDIX A: CONTROL OF HAZARDOUS ENERGY INITIAL TRAINING SIGNATURE FORM .... 15

APPENDIX B: TEST ON LOCKOUT/TAGOUT PROCEDURES ....................................................... 16

APPENDIX C: CONTRACTOR LOCKOUT/TAGOUT NOTIFICATION FORM ................................. 17

APPENDIX D: LOCKOUT/TAGOUT FOR ELECTRICAL ENERGY SOURCE .................................. 18

APPENDIX E: HVAC, ZONES, ACPM, PLUMBERS, STEAMFITTERS, MOTOR EQUIPMENT MAINTENANCE, AND ENERGY MANAGEMENT TECHNICIANS LOCKOUT/TAGOUT DANGER TAG INFORMATION REQUIREMENTS ....... 19-20

APPENDIX F: EMERGENCY LOCKOUT/TAGOUT REMOVAL FORM ........................................... 21

APPENDIX G: CONTROL OF HAZARDOUS ENERGY—ANNUAL AUDIT FORM .......................... 22

APPENDIX H: ACPM, MRW, & WATER TREATMENT SAFETY CHECK LIST .............................. 23

APPENDIX I: HVAC & ENERGY MANAGEMENT TECHNICIANS—SAFETY CHECK LIST ........ 24

APPENDIX J: STEAMFITTER, PLUMBER, AND WELDER SAFETY CHECK LIST ...................... 25

APPENDIX K: POWER PLANT LOCKOUT/TAGOUT PROCEDURES ........................................... 26-29

APPENDIX L: POWER PLANT LOCKOUT/TAGOUT ACKNOWLEDGEMENT .............................. 30

APPENDIX M: ELECTRICIANS SAFETY CHECK LIST .................................................................. 31-32

CAMPUS ENVIRONMENT & OPERATIONS EMPLOYEE ACKNOWLEDGEMENT OF LOCKOUT/TAGOUT POLICY SIGNATURE FORM ................................................................................. 33
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Affected Employee</strong></td>
<td>Employee whose job requires them to work on or with the equipment being serviced or maintained.</td>
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<td><strong>Authorized</strong></td>
<td>Employee trained and authorized in the use of placing a lockout/tagout device on a machine or piece of equipment requiring servicing or maintenance.</td>
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<td><strong>Double Valve Isolation</strong></td>
<td>When two valves are closed at each energy source.</td>
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<td><strong>Energy Control Procedures</strong></td>
<td>Procedures developed, documented, and utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by the program.</td>
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<td><strong>Energy Isolation Device</strong></td>
<td>A device or mechanism that has a hasp or other means of attachment to which or through which a lock can be affixed or it has a locking mechanism built into it.</td>
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<td><strong>Energy Source</strong></td>
<td>Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.</td>
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<td><strong>Equipment</strong></td>
<td>Any device activated by an energy source(s). This could be a motor, pipeline, pump, tank, valve, etc. through which energy or material may pass.</td>
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<td><strong>HOA</strong></td>
<td>Hand-Off Automation Switch.</td>
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<td><strong>Isolation</strong></td>
<td>The creation of a barrier that prevents the flow of energy or material.</td>
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<td><strong>Lock</strong></td>
<td>The lock is a device or mechanism that ensures the equipment cannot be turned on while the work is occurring.</td>
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<td><strong>Lockout</strong></td>
<td>Lockout is the process of blocking the flow of energy from an energy source to a piece of equipment and keeping it blocked out.</td>
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<td>Lockout is accomplished by installing a lockout device at the energy source so that equipment powered by that source cannot be operated. A lockout device is a lock, block, or chain that keeps a valve or lever in the off position.</td>
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<td><strong>Lockout/Tagout Procedure Form</strong></td>
<td>The document outlining the procedures identifying each isolation point and the method for isolating and locking out or tagging out each isolation point.</td>
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<td><strong>Other Employee</strong></td>
<td>Employee whose work operations are or may be in an area where energy control procedures may be utilized.</td>
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<td>Other employees shall be instructed about the procedure and about the prohibition relating to an attempt to restart or re-energize machines or equipment which is located and/or tagged out.</td>
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<td><strong>PPE</strong></td>
<td>Personal Protective Equipment (PPE) includes all clothing and other work accessories designed to create a barrier against workplace hazards. Examples include safety goggles, blast shields, hard hats, hearing protectors, gloves, respirators, aprons, work boots, and safety shoes.</td>
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Qualified Employees * A qualified employee is a person who possesses a recognized degree, certification, or professional standing or who by expertise, knowledge, training, and experience has successfully demonstrated their ability to resolve problems relating to the work, subject matter, or the project.

Servicing and/or Maintenance * Any activity such as repairing, adjusting, lubricating or cleaning equipment where an employee may be exposed to the unexpected energization or start up of equipment or the unexpected release of hazardous energy.

Shall * Used in laws, regulations or directives to express what is mandatory.

Single Valve Isolation * When only one valve is closed at each energy source.

Stored Energy * Residual energy that could be potentially hazardous and released unexpectedly without warning.

Tagout * Tagout is the placement of a specially designed, weatherproof warning tag attached with a non-releasable, self-locking cable tie on the energy isolating device. The purpose of the tagout is to warn others that you are working on the equipment and it must not be started.
PROGRAM POLICY AND PROCEDURES

POLICY

SCOPE

The following program covers the servicing and maintenance of machines and equipment in which the unexpected energization or start up of the machines or equipment or release of stored energy could cause injury to employees. This standard establishes minimum performance requirements for the control of such hazardous energy.

PURPOSE

These practices and procedures are intended to provide for employee safety relative to energy hazards in the workplace.

UNIVERSITY POLICY

CHAPTER 6, PERSONNEL

3342-6-20 University policy regarding occupational safety and health.

(A) The university is committed to an employee safety and health program that meets the guidelines established by the division of safety and hygiene of the state of Ohio.

(B) To prevent disabling injuries and illnesses originating on the job, the university will maintain a safety and health program conforming with the best practices of organizations of this type. To be successful such program must embody proper attitudes toward injury and illness prevention on the part of administrators, supervisors, and employees. It also requires cooperation among employees in all safety and health matters. Only through such a cooperative effort can a safety record in the best interest of all be established and preserved.

(C) The university accepts the responsibility for leadership of the safety and health program, for its effectiveness and improvement, and for providing the safeguards required to promote safe conditions.

(D) Supervisors are responsible for developing the proper attitude toward safety and health in themselves and in those they supervise and for overseeing that all operations are performed with the utmost regard for the safety and health of all personnel, including themselves.

(E) Employees are responsible for genuine adherence to all rules and regulations of the safety and health program, and for continuously practicing safety while performing their duties.

Effective: August 24, 1979
Prior Effective Dates: Prior to November 4, 1977
RESPONSIBILITY

1. Department Manager
   • Within the department, audit authorized employees for compliance with the OSHA standard annually.
   • Provide guidance and assistance when needed.

2. Supervisor
   • Understands the University’s Lockout/Tagout program and the correct means to lockout/tagout equipment in the department.
   • Ensures that the written procedures for multiple energy source equipment are being followed at all times.
   • Trains all new employees coming into the department in the University’s Lockout/Tagout program and issues copy of current Control of Hazardous Energy Program.
   • Enforces the compliance with the program.

3. Individual Performing Maintenance or Service on Equipment Requiring Lockout/Tagout
   • Be knowledgeable concerning the intent and use of this program and request additional training if the requirements of this program are not understood.
   • Be aware of the type of, magnitude of, the hazards of, and the correct means to control and isolate the chemical, electrical, hydraulic, gravity, spring, pneumatic thermal or battery energy associated with the equipment to be worked on.
   • Attach person's tag and/or lock as applicable.
   • Personally verify all energy sources have been Locked/Tagged out and that the equipment is at zero energy state.
   • Maintain the key to all personal locks in their possession.
   • At the completion of work, remove all locks and tags and notify affected employees that the equipment is safe to operate.

PROCEDURES

STEPS TO PERFORM

The following steps must be taken to perform a lockout/tagout procedure:

1. Notify all affected employees that a Lockout/Tagout procedure will be used and explain why.

2. Shut down the equipment using normal procedures. In the case of generated distribution electricity, the electrical power can be turned off.

3. Static electricity and energy stored in capacitors can be dissipated or discharged by appropriate grounding methods.
PREPARATION FOR MAINTENANCE

Defective equipment or equipment requiring maintenance will be de-energized and locked and tagged out. Multiple Energy Source Equipment will be de-energized and locked and tagged out according to the applicable procedures of this program. The requirements will be reviewed with the personnel who will actually install the isolation devices and lockout and tagout devices.

ISOLATION

Personnel required to make changes, repairs, or do maintenance of equipment must have knowledge of the type and magnitude of the energy hazards involved. They must know how to isolate the energy sources and install lockout/tagout devices. On multiple energy source equipment they must understand how to isolate and lock and tagout all energy sources. The authorized employee will then notify appropriate personnel in the area that the equipment has to be locked and tagged out for servicing.

LOCKOUT/TAGOUT

Lockout and/or tagout devices must be attached to each isolation point. Locking at the isolation point and tagging it is always preferable to tagout only and must be done wherever possible.

Every isolation point must have a tagout device attached to it. The tagout devices must be filled out legibly. **Tags will indicate the date it was hung and must be attached to the isolation point with a non-releasable, self-locking cable tie, or by passing the shank of the lock through the tag. Locks must be attached in such a manner that each lock functions independently, and the equipment cannot be energized until all locks and/or tags are removed.**

Emergency isolation source will be locked if possible and must be tagged.

EQUIPMENT SHUT-DOWN PROCEDURE

Following the installation of lockout/tagout devices, the authorized employee shall insure that any potentially stored energy is relieved (i.e. capacitors, etc.).

The authorized employee who will perform the maintenance or service at the work site will review the type and magnitude of energy involved and identify the location of all energy isolation points.

Each authorized employee performing maintenance or service will place their personal Lock and Tag at each energy isolation location.

The authorized employee will then verify that the equipment is de-energized by:

- Trying the start switch or other activating device(s).
- Visually verifying that the equipment is de-energized and/or non-functional.
- Depress the STOP switch after the visual inspection to ensure zero energy state.

All authorized employees will verify that they have installed their personal lock and/or tag, have reviewed the job, and have verified that the equipment is at zero energy state.

On multiple energy source equipment, Lockout/Tagout Procedure Form for Multiple Energy Source Equipment will be used to verify that all energy isolation points have been locked and/or tagged out.
Once the authorized employee's lockout is installed, the equipment may not be released for operation until the required repairs have been made. Once the equipment has been repaired, the authorized employee will then remove the locks/tags and advise affected employees in the area that the repairs have been completed and that the equipment is ready for operation.

**TESTING OR POSITIONING**

In the event that equipment testing or positioning is needed, the following actions shall be followed:

- Clear the equipment of all tools and equipment.
- Insure that all employees are free and clear of the equipment.
- Remove the Lockout and Tagout devices.
- Energize and proceed with testing or positioning.
- De-energize and follow the steps outlined for locking out the equipment.
- Re-verify isolation and zero energy state.

**SHIFT OR PERSONNEL CHANGE**

In the event of maintenance continuing through the end of a shift, the off-going authorized employee will review the job, the hazards involved, and the locations of isolations with the on-coming authorized employee. Off-going authorized employee will remove their personal lock and tag and the on-coming authorized employee shall install their personal lock and tag prior to the off-going employee removing their lock and tag.

**RELEASE FROM LOCKOUT/TAGOUT**

When the job is complete the lockout(s) and/or tagout(s) will be removed from the energy isolation devices.

All tags must be removed and accounted for. Equipment isolation tags must not be left in place after maintenance is completed. The authorized employee shall turn the removed tags in to their immediate supervisor. That supervisor shall retain the tags in a secure location (zone office etc.) for three years. After three years the folder/container containing the tags shall be discarded. For ease of record keeping, this means the tags are actually kept for four years to ensure the tags issued at the end of a given year are actually available the full three years.

Before the equipment may be energized, the authorized employee and the area/department supervisor shall:

- Inspect the work area for non-essential items.
- Remove all tools; replace all guards.
- Ensure that the equipment is operationally intact.
- Inform Affected Employee(s) that the equipment is being returned to service.
**EMERGENCY LOCK/TAG REMOVAL**

Should an authorized employee who installed a personal Lockout/Tagout not be available to remove it, the Lockout/Tagout may be removed under the direction of the Supervisor provided that the Supervisor takes the following precautions.

- Verifies that the authorized employee is not available,
- Makes all reasonable attempts to contact the authorized employee to inform them that their lock and tag are being removed.
- Completes a Lockout/Tagout Removal Form to document the above actions. Completed forms are to be kept in the Maintenance Department.

**EXCLUSIONS TO LOCKOUT/TAGOUT MAY BE:**

- Normal production operations including repetitive, routine minor adjustments and maintenance which have safety guards in place at the adjustment location and the employee is in no danger of being harmed.
- Work on plug and cord-connected electrical equipment only when it is unplugged and there is complete control over the plug.
- Hot tap operations with special hot tap equipment involving gas, steam, water or when the employer shows that continuity of service is essential, shutdown is impractical and documented procedures are followed to provide proven effective protection for employees.
- A designated qualified employee standing guard at the energy isolation device for the sole purpose of ensuring the energy source is not activated.
SPECIAL REQUIREMENTS

ELECTRICAL EQUIPMENT

1. Energized parts to which an employee may be exposed shall be de-energized before the employee works on or near them, unless the supervisor approves and can demonstrate that de-energizing introduces additional or increased hazards or is not feasible due to equipment design or operational limitations. Energized parts that operate at less than 50 volts to ground do not need to be de-energized if there will be no increased exposure to electrical burns or to explosion due to electric arcs.

2. Only qualified employees are permitted to work on energized circuits/equipment. They must be familiar with the proper use of special precautionary techniques, personal protective equipment, insulating and shielding materials, and insulated tools. When work involves electrical equipment that could permit exposure to 440 volts or greater, two (2) qualified employees must work together.

3. When de-energizing electrical devices, the authorized employee conducting the work will:

   a. Place lockout/tagout devices on the disconnecting means used to de-energize the equipment and circuits,
   b. Test the circuit or equipment to ensure it is de-energized and that no energized condition exists as a result of feedback.

4. Before re-energizing, the qualified employee will ensure that all lockout removal procedures have been followed and that equipment-guarding devices are installed prior to removal of lockout/tagout devices.

HIGH VOLTAGE EQUIPMENT

In addition to the requirements, the following steps must be taken when isolating high voltage electrical equipment:

1. The high voltage electrician, or electrical engineer from the Office of the University Architect, shall write a step-by-step switching order. **EXCEPTION: The switching written order may be written by the high voltage foreman or documented by an assistant while performing the switching in the event of an emergency.**

2. No one other than high voltage electricians will lockout/tagout or operate primary equipment, or remove lockout/tagout devices, up to and including secondary mains. **EXCEPTION: The high voltage foreman may remove lockout/tagout devices and restore power after a thorough inspection is made to assure that no one will be exposed to hazardous energy when power is restored.**

3. All high voltage switching shall be performed by at least two (2) high voltage electricians or one of the following:

   a. One (1) high voltage electrician and their foreman;
   b. A high voltage electrician and a non-high voltage electrician under direct supervision of a high voltage foreman; or
   c. In the case of a secondary main shutdown, one (1) high voltage electrician and one (1) non-high voltage electrician.
**COMPRESSED GASES OR AIR**

1. Compressed gas pressure systems are included in this section and are required to be locked out/tagged out if pressures could result in unexpected movement of the equipment or components.

2. Equipment using air or other compressed gas must be equipped with a main line shut off valve capable of being locked out or tagged out in the “off” position.

3. Unless the compressed gas valve allows pressure release, a portion of the pipe shall be disconnected to allow pressure release if the trapped energy could create a possible hazard.

4. All compressed gas lines will be labeled. If labels do not exist, the employee shall notify their immediate supervisor and labeling will be applied.

**MOBILE EQUIPMENT MAINTENANCE**

Mobile equipment maintenance presents a variety of dangers from stored and potentially hazardous energy. It is important to bring equipment to a zero mechanical state in which there is no potential for accidental release of stored or potential energy and accidental start-up or movement is prevented. If working on wheeled equipment, wheel chocks shall be placed to prevent the equipment from rolling. If maintenance or service work requires that attachments or other components be elevated, hardwood blocks, equipment jacks, safety stops, or pivot-point pins shall be installed to prevent the elevated items from falling.

**SHUTDOWN/ISOLATION OF MOBILE EQUIPMENT**

Always follow the manufacturer’s instructions. Some general procedures are:

- Park on a firm, level surface.
- Place the controls in the park or neutral position.
- Set the parking brake.
- Lower forks, buckets, booms, or other attachments to the ground.
- Idle the engine for gradual cooling when applicable.
- Shut off the engine.
- Cycle hydraulic controls to eliminate residual pressure.
- Lock the ignition and remove the key.
- Lock all vehicle doors and place “DO NOT OPERATE—Servicing” Tags on outside door handles if working under vehicle on grade.
- Attach a “DO NOT OPERATE” tag to the steering wheel or lever.
- Block the wheels.
- Disconnect the battery if working on or around the electrical system.
- Install lift arm restraints or block the cylinders if work must be done with arms in the raised position.
HYDRAULIC ENERGY

Equipment using hydraulic pressure shall be locked out by placing the hydraulic pump motor electrical disconnect switch in the “OFF” position and applying a lockout/tagout device to the disconnect. Bleed off residual pressure in the piping system.

WORK ON EXISTING PIPING SYSTEMS

Hazardous energy exists in piping systems in the form of steam, liquids, and chemicals. Program procedures for lockout/tagout should be followed when breaking into a line where there is potential for exposure to hazardous energy.

Many accidents occur because of the failure to verify that all energy sources have been isolated. In some instances, piping being serviced may be back-fed or be tapped into by several lines leading to an unexpected release. Process pipe drawings and/or plant maintenance personnel must be consulted to identify all lines feeding the system being serviced.

On steam systems above 15 psig, double valve protection is required when the work involved may jeopardize the integrity of the piping that the isolation valve is attached to. Clarification: When working on a main steam line between two isolation valves of verified reliability, it is not necessary to close a second main steam valve upstream of the repair area. When working on a small diameter steam line such as a trap station line, the small diameter valve is not adequate isolation. The steam main valve on each side of the repair area must be closed. This distinction is necessary because of the possibility of breaking a smaller diameter valve and compromising the safety isolation.

OTHER PRECAUTIONS FOR PIPING SYSTEMS

- If it is physically impossible to trace the line back to the lockout or to otherwise verify a safe line, a pinhole should be tapped prior to cutting a line.
- By loosening bolts slowly all the way around a gasket, incomplete energy release of lines can be detected without injury.
- Employees shall avoid working directly under a valve or cutting point where pipe contents may be released.

GRAVITY AND STORED ENERGY

Regardless of the lockout/tagout procedure used, safety blocks or mechanical devices will be used to protect employees from any accidental equipment movement. Bleed off, or otherwise dissipate the residual pressure in steam, air, gas, water, electrical, mechanical, and/or hydraulic systems.

OUTSIDE CONTRACTORS

Whenever outside contractors plan to engage in activities covered by the scope of this guideline, the Kent State University representative and the outside contractor will inform each other of their lockout or tagout procedures for the job. They will both ensure their personnel understand and comply with any restrictions and prohibitions of the energy control procedures to be used. Outside contractors must be informed of the Kent State University lockout/tagout procedure in full detail so that their employees understand the meaning of locks or tags that they may encounter during the course of their work. In addition, outside contractors using locks or tags shall inform the Kent State University representative to ensure that appropriate personnel are informed. Kent State University shall not retain removed contractor tags.

* It is the responsibility of the contractor to affix their own locks and tags.
GROUP LOCKOUT/TAGOUT PROCEDURE

When more than one authorized employee is involved in equipment maintenance, a Group Lockout/Tagout procedure shall be used if individual lockout/tagout is deemed impractical. This procedure must provide the personnel involved with the degree of protection equivalent to the use of personal locks and tags.

Primary responsibility will be given to a lead authorized employee. The lead authorized employee must be on the job and be aware, at all times, of the location and status of all group members with regard to the lockout/tagout of the equipment. It will be the lead authorized employee’s primary responsibility to be accountable for the safety of all group members under the lead authorized employee’s control by providing the following written procedures:

VERIFICATION OF ISOLATION FOR GROUP LOCKOUT

The lead authorized employee will review the type and magnitude of the hazards and the correct means to control and isolate the chemical, electrical, hydraulic, gravity, pneumatic, spring, thermal or battery energy involved with the other authorized employees in the group. Each group member will attach their personal lock or tag to their assigned isolation device.

Following installation of energy isolation and Lockout/Tagout, the lead person and all authorized employees shall verify that the equipment is de-energized and that the potentially stored energy is released.

The group’s lead person will then verify that all locks and tags are in place, all group members have reviewed the job, and the equipment has been verified to be at a zero energy state. (Multiple Energy Source Equipment)

RELEASE FROM LOCKOUT/TAGOUT

The lead authorized employee will verify their group members are free and clear of the equipment before it is released from lockout/tagout.

After all group members have been accounted for, each group member will remove their personal lock and/or tag.

The lead person may then retrieve the tag(s) from the lockout and proceed with release from isolation.

MONITORING THE PROGRAM

At least once a year an audit of the Control of Hazardous Energy Program shall be conducted to ensure that authorized employees are following the procedures and requirements.

The audit shall be performed by a department supervisor or manager who implements the Control of Hazardous Energy Program, not by an employee who is utilizing the energy control procedure that is being audited at the time.

If the audit finds any deficiencies, the person being inspected will be retrained or disciplined depending on the severity of the deficiency.

The individual conducting the audit shall use the Control of Hazardous Energy Program document to review and discuss requirements with the employee.
The annual audit will be certified with the following information:

1. The equipment using the hazardous energy and the location on campus.
2. The date of the audit and the name of the employee being audited.
3. The name of the person performing the audit.

When lockouts cannot be used and a tagout is used, employees must be trained on the following restrictions on tags:

1. Tags affixed to isolation devices are warning devices that do not provide the physical restraint on the device that a lock would provide. Any tag attached to an isolation device must not be removed without authorization of the person attaching it, in accordance with the procedure, and must never be bypassed or ignored.
2. Tags must be legible and understandable.
3. Tags must be appropriately protected and attached with a non-reusable locking tie.
4. Tags can invoke a false sense of security and their meaning must be clearly understood.

**EMPLOYEE TRAINING AND RETRAINING**

Training and retraining will be provided to ensure employees understand the purpose and function of the Control of Hazardous Energy Program and that they have the knowledge and skills required for safe application, usage, and removal of isolation device(s). Training will be given and proficiency assured prior to authorization annually and upon a change in employee job assignment thereafter.

Each authorized employee who will use the Lockout/Tagout procedure will receive training in the recognition of type and magnitude of, the hazard of, and the correct means to control and isolate the energy source.

Each affected employee whose job requires them to operate or use equipment on which maintenance or servicing will be done, or works in an area where such maintenance or servicing will be done, will be trained in the purpose and use of the Control of Hazardous Energy Program.

All other employees with jobs in or which may be in an area where hazardous energy control procedures may be utilized will be instructed regarding the procedure and about prohibition concerning restarting and re-energizing equipment which is locked out or tagged out.
APPENDIX A
CAMPUS ENVIRONMENT AND OPERATIONS
CONTROL OF HAZARDOUS ENERGY – INITIAL TRAINING

| Location: | Instructor: ____________________________  Training Date: ____________________________ |

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<tr>
<td>Control of Hazardous Energy OSHA Standard</td>
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<td>Control of Hazardous Energy</td>
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<tr>
<td>When to Use Lockout/Tagout Definitions found in KSU’s Procedure</td>
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<td>How to Prepare for Shutdown</td>
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<td>Knowledge Necessary for Installing Lockout/Tagout</td>
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<td>Explain Lockout/Tagout Procedure Form</td>
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<td>Notification of Affected Employees</td>
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<td>Locking Out of Isolation Devices</td>
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<tr>
<td>How to Verify Isolation and Lockout/Tagout is Complete</td>
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<td>Signatures Required</td>
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<tr>
<td>Release from Lockout/Tagout</td>
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<tr>
<td>Explain Testing and Repositioning</td>
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<tr>
<td>Group Lockout/Tagout</td>
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<td>Explain Training and Annual Audit Procedure</td>
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<td>Video (if available)</td>
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I have received the Control of Hazardous Energy Training listed above and agree to abide by the rules of our department’s Control of Hazardous Energy Procedure.

Please have all employees sign below and keep this copy in the Control of Hazardous Energy Program Manual.

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<th>Print Name:</th>
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APPENDIX B
CAMPUS ENVIRONMENT AND OPERATIONS
TEST ON LOCKOUT/TAGOUT PROCEDURES

1. The Lockout/Tagout Procedure is: (circle one)
   A. OSHA compliant
   B. Kent State University policy
   C. All of the above

2. All employees are allowed to use locks and tags? True False

3. The lockout tagout procedure is to be used at all times when maintenance of equipment is being performed. True False

4. Locks are to have multiple keys and can be used for other purposes. True False

5. Lockout tags can be hung with wire or string. True False

6. Training is required: (circle one)
   A. Once a quarter
   B. Once a year
   C. Once every two years

7. Before locking out a piece of equipment, the authorized employee must know: (circle one)
   A. The type and magnitude of energy
   B. The locations of each isolation device
   C. The types of lockout devices needed
   D. All of the above

8. Verification that the equipment is at Zero energy state is to be done before maintenance work commences. True False

9. When releasing a piece of equipment back to production, the following should be verified: (circle one)
   A. The equipment is operationally intact
   B. All guards have been replaced
   C. All locks and tags have been removed
   D. Affected employees have been notified that the equipment is safe to operate
   E. All of the above

10. If it is impossible to use a lock to lockout a piece of equipment, then a lockout tag can be used. True False

_________________________________________ _________________________________________
Employee Printed Name Supervisor Printed Name

_________________________________________ Date  _________________________________________
Employee Signature Date Supervisor Signature Date
The contractor and KSU representative have informed each other of their respective lockout/tagout procedures. A copy of the Lockout/Tagout Program has been made available to the contractor. The contractor and KSU representative agree to ensure that their personnel understand and comply with any restrictions and prohibitions of the energy control procedures that will be in place during this project.
APPENDIX D
CAMPUS ENVIRONMENT AND OPERATIONS
LOCKOUT/TAGOUT PROCEDURE FOR ELECTRICIANS

GENERAL DESCRIPTION OF EQUIPMENT
Equipment to be locked out/ tagged out (provide model number, if available):
_____________________________________________________________________________

LOCATION OF EQUIPMENT
Building and Room # ___________________________________________________________________

REASON FOR DE-ENERGIZING EQUIPMENT
_____________________________________________________________________________

LOCKOUT/TAGOUT PROCEDURES

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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</tbody>
</table>

Have all the appropriate people been notified of the shutdown (area supervisor, affected employees)?

Has each energy source been shut off? Describe how:

Have lockout/tagout devices been placed on the equipment or machine?

Has the machine or equipment been verified that no residual energy is stored? Describe how:

Lockout/Tagout procedure initiated by:

<table>
<thead>
<tr>
<th>Authorized Person Printed Name</th>
<th>Signature of Authorized Person</th>
<th>Date</th>
<th>Time</th>
</tr>
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</tbody>
</table>

REMOVAL OF LOCKOUT/TAGOUT PROCEDURES

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
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</tbody>
</table>

Have you verified that the equipment is safe before removing the lockout/tagout device?

Have you removed all nonessential items from around the machine?

Have you ensured all employees are free and clear of the equipment?

Lockout/Tagout procedure completed by:

<table>
<thead>
<tr>
<th>Authorized Person Printed Name</th>
<th>Signature of Authorized Person</th>
<th>Date</th>
<th>Time</th>
</tr>
</thead>
<tbody>
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</tr>
</tbody>
</table>
Before any work begins, the DANGER TAG will indicate:

- The name of who secured the energy or device.
- The name of the department and shop that secured the energy or device.
- The date when the energy or device was secured.
- The location of the device (i.e. building).
- What energy or device was secured.
- Testing/release method on the DANGER TAG (i.e., bled off to atmosphere, tested by meter, etc.).

(See examples below)

**EXAMPLE -1**

On an air handling unit that requires the v-belts to be changed. Place the hand-off auto switch to the hand position and verify that the fan or fans are running. Place the HOA switch in the off position and verify that the fan or fans stop. If the fan or fans stop, pull the electrical disconnect to the open position. Place the HOA switch back in the hand position and then verify that the fan or fans do not start. Lastly place the HOA switch back in the off position and follow the Lockout/Tagout procedures. Enter used HOA switch on the DANGER TAG.

**EXAMPLE -2**

A low pressure steam supply line needs a line trap replaced. Isolate the steam valve inlet to the trap. Isolate the trap discharge valve to the condensate return piping. Open the inlet strainer to the trap and vent steam to atmosphere. Enter vented to atmosphere on the DANGER TAG. When the work is completed, the DANGER TAG will indicate:

- That the energy or device was safe to return to operation (“safe to operate”).
- Date it was returned to normal operation.
- Who returned the energy or device to operation.
CAMPUS ENVIRONMENT AND OPERATIONS BUILDING MAINTENANCE
LOCKOUT TAGOUT SAMPLE DANGER TAG

FRONT

BACK
APPENDIX F
CAMPUS ENVIRONMENT AND OPERATIONS
EMERGENCY LOCKOUT/TAGOUT REMOVAL FORM

Date:__________ Time:__________ Equipment Locked:_____________________________________

Location of Equipment: ________________________________________________________________

Reason for Removing Lock: _____________________________________________________________

Authorized Employee's Name: ___________________________________________________________

Have the following actions been taken?

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Verified that the equipment is safe before removing the lockout/tagout device?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Removed all nonessential items from around the machine?</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Ensured all employees are free and clear of the equipment?</td>
</tr>
</tbody>
</table>

Answer items below only if removal of lockout/tagout done by an authorized employee other than installing employee.

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>Verified that the authorized employee is not available to remove their lockout device?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>Made all reasonable attempts to inform the authorized employee that the Lockout has been removed?</td>
</tr>
<tr>
<td></td>
<td>No</td>
<td>Contacted the authorized employee’s Supervisor?</td>
</tr>
</tbody>
</table>
APPENDIX G
CAMPUS ENVIRONMENT AND OPERATIONS
CONTROL OF HAZARDOUS ENERGY SOURCES

ANNUAL AUDIT FORM
(Inspection)

Date of Audit/Inspection: ______________________________________________________

Equipment Isolated: _________________________________________________________

Location of Equipment Isolated: _______________________________________________
_________________________________________________________________________

I, ____________________________________ certify that __________________________
(Person Performing Audit) *(Person Being Audited)

was audited for compliance to the Control of Hazardous Energy Sources (Lockout/Tagout)
Procedure on the above date. I have reviewed the Lockout/Tagout Procedure for Multiple
Energy Source Equipment Form for the equipment indicated and the isolation was / was not
(circle one) performed correctly.

Additional Comments:

___________________________  __________________________
Signature of Person Performing Audit    Printed Name of Person Performing Audit

___________________________  __________________________
Signature of Person Being Audited     Printed Name of Person Being Audited

Date

*A separate form must be submitted for each person being audited. Retraining will be required if
isolation was not performed correctly.
## APPENDIX H
CAMPUS ENVIRONMENT AND OPERATIONS
ACPM, MRW, & WATER TREATMENT SAFETY CHECK LIST

<table>
<thead>
<tr>
<th>DATE:</th>
<th>DESCRIPTION OF JOB:</th>
</tr>
</thead>
<tbody>
<tr>
<td>TIME:</td>
<td>WORK LOCATION:</td>
</tr>
<tr>
<td>EMPLOYEE:</td>
<td>WORK ORDER OR LOG NUMBER:</td>
</tr>
<tr>
<td>DATE &amp; TIME SUPERVISOR VISITED JOB SITE FOR SAFETY CHECK:</td>
<td></td>
</tr>
</tbody>
</table>

### POSSIBLE HAZARDS PRESENT:

- Harmful gases
- Broken glass
- Extreme hot water/steam
- Live energy source
- Excessive weight of equipment
- Excessive noise level
- Elevators stuck between floors
- Use of flammable tools
- Bio Hazards or exposure to infectious fluids
- Hazardous position of equipment to be removed/replaced
- High working places
- Inadequate lighting
- Use of chemicals
- Insulation could contain asbestos.
- Confined space
- Unavoidable wet location
- Other:

### PROCEDURES & PPE REQUIRED TO SAFELY PERFORM JOB

- Lockout/Tagout equipment
- Eye or face protection
- Hot work permit
- Ear protection
- Asbestos abatement required
- Bio hazard cleanup kit
- Follow Elevator procedures
- Rubber or latex gloves
- Confined space permit
- Long sleeve shirt
- Safety harness and tri-pod
- Hard hat / Bump cap
- Forced air machine
- Two man teams with two way radios
- Respirator
- Caution tape or barriers
- Air space monitor
- Boots
- Ground fault protection
- Fire extinguisher
- Other:

---

Employee Signature: ___________________________  Employee Printed Name: ___________________________  Date: ___________________________

Supervisor’s Signature: ___________________________  Supervisor’s Printed Name: ___________________________  Date: ___________________________
APPENDIX I
CAMPUS ENVIRONMENT AND OPERATIONS
HVAC & ENERGY MANAGEMENT TECHNICIANS – SAFETY PROCEDURE CHECK LIST

Date: ____________________________________________________________  Time: ____________
Employee:  _______________________________________________________
Description of Job: ________________________________________________
Work Location: ___________________________________________________
Work Order or Log Number:_________________________________________

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>ITEM TO CONSIDER</td>
<td>PROCEDURES &amp; PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS</td>
</tr>
<tr>
<td>I have reviewed this job assignment with my supervisor and have been made aware of possible safety issues and proper procedures to follow.</td>
<td>□ Lockout/Tag Out</td>
</tr>
<tr>
<td>Do I know and understand the proper procedures to do the job?</td>
<td>□ Ground fault protection</td>
</tr>
<tr>
<td>Do I have the right PPE and tools for the job I’ve been assigned?</td>
<td>□ 500V insulated gloves</td>
</tr>
<tr>
<td>Have I informed the affected personnel that I will be de-energizing the panel, circuit, and/or equipment and have I relayed the approximate time of the outage?</td>
<td>□ Leather protector gloves</td>
</tr>
<tr>
<td>Is my work environment well lit?</td>
<td>□ Safety harness and tripod</td>
</tr>
<tr>
<td>Is my work area free of water, tripping hazards or any other hazards? I.e. Was dry ice ever used in this space?</td>
<td>□ Forced air machine</td>
</tr>
<tr>
<td>If I have identified any safety hazards, have I contacted my supervisor and/or other responsible parties in order to remedy the situation?</td>
<td>□ Respirator</td>
</tr>
<tr>
<td>If using extension cords or power tools, are the cords free from damage (ground pin removed, cracked, cut, or taped)?</td>
<td>□ Eye or face protection</td>
</tr>
<tr>
<td>Do I feel that I can do the job safely? Have I communicated this with my supervisor?</td>
<td>□ Long sleeved shirt</td>
</tr>
<tr>
<td>Will I be alert and not rush the job by reaching blindly into areas containing live parts?</td>
<td>□ Ear protection</td>
</tr>
<tr>
<td>Is the operating voltage 480 volts or below? (480 volt is the maximum circuit you are allowed to work on.)</td>
<td>□ Caution tape or barriers</td>
</tr>
<tr>
<td>Are there internal safety mechanisms? I.e., anything other than the obvious devices like H.O.A. or disconnects that could start or stop this equipment?</td>
<td>□ Bump cap</td>
</tr>
<tr>
<td>After turning disconnecting means to the “OFF” position, have I checked to see if the conductors are de-energized using the appropriate tester? There may be more than one energy source in the device.</td>
<td>□ Air space monitor</td>
</tr>
<tr>
<td>During troubleshooting, if testing equipment in an energized state, have I used the proper PPE equipment and tools for the job?</td>
<td>□ Lifting platform or crane</td>
</tr>
<tr>
<td></td>
<td>□ Asbestos abatement required</td>
</tr>
<tr>
<td></td>
<td>□ Confined space permit</td>
</tr>
<tr>
<td></td>
<td>□ Hot work permit</td>
</tr>
<tr>
<td></td>
<td>□ Fire extinguisher</td>
</tr>
<tr>
<td></td>
<td>□ Other _____________________________</td>
</tr>
</tbody>
</table>
APPENDIX J
CAMPUS ENVIRONMENT AND OPERATIONS
STEAMFITTER, PLUMBER, AND WELDER SAFETY CHECK LIST

DATE:___________________________________________________TIME:________________________

EMPLOYEE:___________________________________________________________________________

DESCRIPTION OF JOB:________________________________________________________________

WORK LOCATION:_______________________________________________________________________

WORK ORDER OR LOG NUMBER:_______________________________________________________________________

DATE & TIME SUPERVISOR VISITED JOB SITE FOR SAFETY CHECK:
_____________________________________________________________________________________

POSSIBLE HAZARDS PRESENT

☐ Harmful gases ☐ Buried utilities
☐ Extreme hot water/steam ☐ Live energy source
☐ Excessive weight of equipment ☐ Excessive noise level
☐ Trench cave in possible ☐ Use of flammable tools
☐ Low head and side clearances with limited egress ☐ Hazardous position of equipment to be removed/replaced
☐ High pressure environment ☐ Inadequate lighting
☐ Confined space or high elevations ☐ Unavoidable wet location
☐ Insulation that may need to be removed in order to complete work (asbestos containing) ☐ Other _____________________________
☐ Chemicals (including fluids containing chemical treatment)

PROCEDURES & PPE REQUIRED TO SAFELY PERFORM JOB

☐ Lockout/Tagout equipment ☐ Eye or face protection
☐ Hot work permit ☐ Ear protection
☐ Asbestos abatement required ☐ Welding coat & helmet
☐ Call Ohio Utilities Protection Service (OUPS) ☐ Heavy leather gloves
☐ Confined space permit ☐ Long sleeve shirt
☐ Safety harness and tri-pod ☐ Hard hat / Bump cap
☐ Forced air machine ☐ Shoring box
☐ Respirator ☐ Caution tape or barriers
☐ Air space monitor ☐ Boots
☐ Ground fault protection ☐ Fire extinguisher
☐ Two man teams with two way radios ☐ Other _____________________________
☐ MSDS sheets interpreted and understood for actions in case of exposure

____________________________________  ______________________________________  ________________
Employee Signature              Employee Printed Name                  Date

____________________________________  ______________________________________  ________________
Supervisor’s Signature            Supervisor’s Printed Name               Date
LOCKOUT/TAGOUT

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.

This procedure applies to the control of energy during servicing and/or maintenance of machines and equipment which takes place during normal production operations only if:

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

Or

2) An employee is required to place any part of their body into an area on a machine or piece of equipment where an associated danger zone exists during a machine operating cycle.

Servicing and/or maintenance includes workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and/or servicing equipment where the employee may be exposed to the unexpected energization or start up of the equipment or release of hazardous energy.

LOCKOUT/TAGOUT PROCEDURE

Procedural steps for the placement, removal, and transfer of lockout devices or tagout devices and the responsibility for them; and requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures:

- The lead authorized employee shall 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.

- Before an authorized or affected employee turns off a machine or equipment, the authorized employee shall identify the type and magnitude of the energy, shall understand the hazards of the energy to be controlled, and shall know the method or means to control the energy.

- If the machine or equipment is operating, shut it down by the normal stopping procedure (depress the stop button, open switch, close valve, etc.). An orderly shutdown must be utilized to avoid any additional or increased hazard(s) to employees as a result of the equipment stoppage.

- De-activate the energy isolating device(s). All 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 each energy source.

- Affix lockout and/or tagout devices to each energy isolating device.

- Lockout devices shall be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position.

- Tagout devices shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited.

- Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device in a position that will be immediately obvious to anyone attempting to operate the device.

- All employees, upon observing a machine or piece of equipment which is locked out to perform servicing or maintenance shall not attempt to start, energize, or use that machine or equipment.
RELEASE OF STORED ENERGY

Following the application of lockout or tagout devices to energy isolating devices, all potentially hazardous 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, or bleeding down to atmosphere.

If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall be continued until the servicing or maintenance is completed or until the possibility of such accumulation no longer exists.

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.

After first checking that no personnel are exposed, verify the isolation of the equipment by:

- Operating the push button or other normal controls,
- Observing an open path to atmosphere, or
- Measuring with a voltmeter, pressure gauge, or thermometer.

**Caution:** Return operating control(s) to neutral or "off" position after verifying the isolation of the equipment.

RELEASE FROM LOCKOUT OR TAGOUT

Before lockout or tagout devices are removed, procedures shall be followed by the authorized employee(s) to ensure the following:

- Check the machine or equipment and the immediate area around the machine to ensure that nonessential items have been removed and that the machine or equipment components are operationally intact.
- Check the work area to ensure that all employees have been safely positioned or removed from the area.
- Verify that the controls are in neutral.
- Remove the lockout devices and re-energize the machine or equipment. Before a machine or equipment is started, notify all affected employees that the lockout or tagout device(s) have been removed.

*When servicing and/or maintenance is performed by a crew, craft, department or other group, they shall utilize a procedure which affords the employees a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device.*

GROUP LOCKOUT OR TAGOUT

Primary responsibility for a set number of employees working under the protection of a group lockout/tagout procedure is vested in a lead authorized employee. The lead authorized employee is designated to coordinate all affected work forces and ensure continuity of protection when using a Group Lockout Keybox.

- The lead authorized employee selects an available colored set of locks. Following Lockout/Tagout procedure, employee Locks and/or Tags all energy isolating devices using locks of the selected color and fills out and signs the Lockout/Tagout procedure form, entering the date and time.
- Employee then places the Key to the locks of that selected color in the corresponding Group Lockout Keybox and places their Personal Lock or Supervisor Lock on the Keybox.
If more than six (6) locks are needed, a second color of locks is used, and both keys are placed in the same Group Lockout Keybox.

Each authorized employee or CONTRACTOR who works on that job shall affix a personal lock or tagout device to the Group Lockout Keybox and notify the coordinating lead authorized employee when they begin work and shall remove those devices when they leave the facility or stops working on the equipment being serviced.

During shift or personnel changes if all workers leave the facility before the job is completed, an oncoming authorized employee places their Personal Lock on the Keybox before the last lock is removed. This procedure is repeated between shifts thus allowing the on-duty personnel to have control of the hazardous energy isolation.

If the service or maintenance task will last overnight or for several days, and it can be assumed that the shift personnel will not need to re-energize any isolated component(s), a Supervisor Lock may be placed on the Group Lockout Keybox until an authorized employee or CONTRACTOR assumes control of the hazardous energy isolation.

(Note) If a Supervisor Lock has been placed on the Group Lockout Keybox, it must be removed by a KSU Supervisor.

Procedures utilized during shift or personnel changes ensure the continuity of lockout or tagout protection, including provision for the orderly transfer of lockout or tagout device protection between off-going and oncoming employees. This is vital to minimize the exposure to hazards from the unexpected energization or start-up of equipment or the release of stored energy.

GROUP LOCKOUT OR TAGOUT DEVICE REMOVAL

When a Group Lockout Procedure has been used, each employee shall remove his or her own Personal Lock from the Group Lockout Keybox. A KSU supervisor shall remove each Supervisor Lock.

The lead authorized employee, who applied the device, or the final authorized employee or Supervisor to remove his or her Personal Lock from the Group Lockout Keybox shall follow the removal procedure, remove the Lockout / Tagout Devices, and fill out and sign the Lockout/Tagout Removal form.

When the authorized employee who applied a personal lock or tagout device is not available to remove it, that device may be removed under the direction of the employer providing: Verification by the employer that the authorized employee who applied the device is not at the facility, all reasonable efforts have been made to contact the authorized employee to inform them that their lockout or tagout device has been removed, and that the authorized employee has this knowledge before they resume work at the facility.

In situations in which lockout or tagout devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or component thereof, the following sequence of actions shall be followed: Clear the machine or equipment of tools and materials. Remove employees from the machine or equipment area. Remove the lockout or tagout devices. Energize and proceed with testing or positioning. When testing or positioning is completed, de-energize all systems and reapply energy control measures to continue the servicing and/or maintenance.

OUTSIDE PERSONNEL (CONTRACTORS, ETC.)

Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this program, a KSU authorized employee or Supervisor and the outside employer shall inform each other of their respective lockout or tagout procedures and coordinate the procedure to be used.

All KSU affected employees shall understand and comply with the restrictions and prohibitions of the outside employer's energy control program.

Outside servicing personnel cannot be expected to be familiar with KSU site-specific energy hazards. Therefore, a KSU authorized employee or Supervisor shall review the job with the outside employer, pointing out the type and magnitude of all known energy sources, the hazards of the energy to be controlled, and the method or means to control the energy. Whenever KSU Lockout devices are used, the key(s) shall be placed in the appropriate Group Lockout Keybox and all outside servicing personnel shall place personal locks on the Group Lockout Keybox when they begin work and shall remove those devices when they leave the facility or stop working on the machine or equipment being serviced or maintained.
NOTE:

Procedures shall be developed, documented, and utilized for the control of potentially hazardous energy when employees are engaged in the activities covered by this section.

The procedures shall clearly and specifically outline the scope, purpose, authorization, rules, and techniques to be utilized for the control of hazardous energy and the means to enforce compliance including, but not limited to, the following:

- A specific statement of the intended use of the procedure;
- Specific procedural steps for shutting down, isolating, blocking, and securing machines or equipment to control hazardous energy;
- Specific procedural steps for the placement, removal, and transfer of lockout devices or tagout devices and the responsibility for them; and
- Specific requirements for testing a machine or equipment to determine and verify the effectiveness of lockout devices, tagout devices, and other energy control measures (Zero Energy confirmation).

After January 2, 1990, whenever replacement or major repair, renovation, or modification of a machine or equipment is performed and whenever new machines or equipment is installed, energy isolating devices for such machine or equipment shall be designed to accept a lockout device.

NOTE EXCEPTION:

The employer need not document the required procedure for a particular machine or equipment when all of the following elements 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 de-energize 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 locked-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. The employer, in utilizing this exception, has had no accidents involving the unexpected activation or re-energization of the machine or equipment during servicing or maintenance.
APPENDIX L  
CAMPUS ENVIRONMENT AND OPERATIONS  
POWER PLANT EMPLOYEE ACKNOWLEDGEMENT OF CONTROL OF HAZARDOUS ENERGY  
(LOCKOUT/TAGOUT) POLICY

REASON FOR DE-ENERGIZING EQUIPMENT:

[ ] Supervisor(s)  [ ] Operators
[ ] Workers in area  [ ] Others ___________________

PLANT SYSTEM(S) BEING WORKED ON:

EQUIPMENT DE-ENERGIZED: LIST BY NAME

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<tbody>
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<td></td>
</tr>
</tbody>
</table>

ENERGY SOURCES SHUT OFF:  
E-Electrical  P-Pressurized Fluid  T-Thermal  F-Flammable  M-Mechanical  C-Chemical

Lockout/Tagout procedure initiated by: ___________________________________________  Date  Time

REMOVAL OF LOCKOUT/TAGOUT PROCEDURES

[ ] Verified that Equipment is safe to operate

[ ] Removed all tools and nonessential items from around equipment
[ ] Ensured that all persons are free and clear of equipment
[ ] Removed all Lockout Devices from equipment
[ ] Properly stored all Locks, Chains, Devices, and Completed Tags

Lockout/Tagout removal procedure completed by: Date  Time
APPENDIX M
CAMPUS ENVIRONMENT AND OPERATIONS
ELECTRICIANS SAFETY CHECK LIST

DATE: ___________________________      TIME: ___________________________

EMPPLOYEE: _____________________________________________________________________________________________

DESCRIPTION OF JOB: ____________________________________________________________________________________

WORK LOCATION: _______________________________________________________________________________________

WORK ORDER OR LOG NUMBER: __________________________________________________________________________

DATE & TIME SUPERVISOR VISTED JOB SITE FOR SAFETY CHECKS: __________________________________________

<table>
<thead>
<tr>
<th>YES</th>
<th>NO</th>
<th>ITEM TO CONSIDER</th>
<th>PERSONAL PROTECTIVE EQUIPMENT REQUIREMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Lockout/Tag Out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Ground fault protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ 500 V insulated gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ 5 KV gloves</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ 15 KV gloves</td>
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<td></td>
<td></td>
<td></td>
<td>☐ Protective sleeves</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Electrical hard hat</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Insulator boots</td>
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<td></td>
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<td></td>
<td>☐ Insulator mat</td>
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<td></td>
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<td></td>
<td>☐ Insulator blanket</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ 1000V rated tools</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Insulator coat</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Safety harness and tripod</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Force air machine</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Respirator</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Eye or face protection</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Long sleeved shirt</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Ear protection</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Caution tape or barriers</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Hot stick</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>☐ Other</td>
</tr>
</tbody>
</table>

Print Name: __________________________________ Print Name: _______________________________
(Employee)        (Supervisor)

Employee Signature: ____________________________ Supervisor Signature: ________________________

This document must be completed on each project as required by Campus Environment & Operations

31
A qualified employee is a person who possesses a recognized degree, certification, or professional standing, or who by expertise, knowledge, training, and experience has successfully demonstrated their ability to resolve problems relating to the work, subject matter, or the project.

ANYONE FAILING TO FOLLOW THESE STEPS SHALL BE SUBJECT TO SEVERE DISCIPLINARY ACTION UP TO TERMINATION AS STATED IN THE ELECTRICAL SAFETY POLICY.
I, the undersigned, have been given the Kent State University Campus Environment and Operations' document "Control of Hazardous Energy (Lockout/Tagout) Program."

________________________________________________________________________

(Employee's Printed Name)

________________________________________________________________________

(Employee’s Signature)  (Date)

*All Campus Environment and Operations’ and other Kent State University employees and other Kent State University personnel involved with electrical work and/or maintenance work orders are required to complete the appropriate check lists prior to commencing any work and/or, when applicable, immediately after all work has been completed.