

## ARKANSAS TECH UNIVERSITY HEALTH & SAFETY POLICY

- DATE**                      **March 9, 2022**
- SUBJECT:**                Energy Control – Lockout/Tagout
- PURPOSE:**              The purpose of the Energy Control – Lockout/Tagout Policy is to ensure that before any employee performs any servicing and/or maintenance on machinery or equipment, where the unexpected energizing, start up or release of stored energy could occur and cause injury and/or death, the machinery or equipment **will** be rendered safe to work on.
- SCOPE:**                  This policy applies to all Arkansas Tech University Office of Facilities Management employees and staff who are either directly or indirectly involved with any mechanical or electrical work.
- RESPONSIBILITY:** It shall be the responsibility of the Occupational Safety Coordinator to ensure that this policy remains current with all applicable Federal or State regulations and industry best practices to ensure that employees involved in this type of work are adequately trained. It shall be the responsibility of the supervisors to ensure that employees under their control adhere to all parts of this policy. Finally, It shall also be the responsibility of each employee affected by this policy to know, understand and abide by all elements of this policy.
- REFERENCE:**            State of Arkansas Energy Control Program for Mechanical Lock-out/Tag out/Block out and Electrical Work Practices

### *General Information*

Lockout is the preferred method of isolating machines or equipment from its energy sources and shall be used whenever possible. Equipment obtained or modified after January 2, 1990, will be installed with lockout capability.

If tags are used, additional steps shall be taken as necessary to provide the equivalent safety available from the use of a lockout device.

### *Basic Rules for Using Lockout or Tag out System Procedure*

All equipment shall be locked out, blocked out (blocks, blinds, etc.) or tagged out to protect against accidental or inadvertent operation when such operation could cause injury or death to personnel. Anyone operating or attempting to operate any switch, valve, or other energy isolating device that is locked, blocked, or tagged out will be disciplined.

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### *General Lockout/Block out/Tag out Procedures*

This procedure establishes the minimum requirements for lockout, block out, or tag out of energy isolating devices. Specific procedures for control of hazardous energy sources may be required for equipment or machinery before any maintenance or servicing is performed, unless it meets the exceptions noted in Appendix B.1 – Exceptions to the Lockout/Block out/Tag out Rules. All such machines and equipment shall be evaluated using Appendix B.2 – Energy Source Determination Checklist. If a specific procedure is needed it shall be written using Appendix B.3, Specific Equipment Procedure Guideline.

Any employee who could be exposed to hazardous energy sources shall be thoroughly instructed in the safety significance of the lockout, block out, or tag out procedure. Employees authorized to perform energy control measures shall receive training commensurate with their responsibilities and as required by the applicable standards, regulations, or policies. Appendix B.4 is a list of names and job titles of employees authorized to conduct lockout and tag out. Each new or transferred affected employee and other employees whose work operations are or may be in the area shall be instructed in the purpose and use of the lockout or tag out procedure. The list of affected or other employees is in Appendix B.5. The Section Supervisor or the senior authorized person on site will brief all affected employees individually. The procedures noted in the *Sequence of Lockout or Tag out System Procedure* will be followed.

### *Preparation for Lockout or Tag out*

The “authorized” employee shall make a survey to locate and identify all isolating devices to be certain which switch(s), valve(s) or other energy isolating devices apply to the equipment to be locked or tagged out. More than one hazardous energy source and/or means of disconnect (electrical, mechanical, or others) may be involved. If more than one energy source or stored energy exists check the List of Energy Control Procedures, Appendix B.6 for specific procedures and then follow that specific procedure. In the case where there is no specific procedure for a piece of equipment or machine, no work will proceed until one is written and approved.

### *Sequence of Lockout/ Block out or Tag out System Procedure*

1. Notify all affected employees that a lockout or tag out system is going to be utilized including, the location and the reason why. The authorized employee shall know the type and magnitude of energy that the machine or equipment utilizes and shall understand the hazards associated with it.
2. If the machine or equipment is operating, shut it down by the normal stopping procedure. This is usually done by depressing the stop button, opening the toggle switch, etc. In addition, ensure that all stored energy is dissipated or properly restrained.
3. Operate the switch, valve, or other energy isolating device(s) so that equipment is isolated from its energy source(s). Stored energy such as springs, elevated machine members, rotating flywheels, hydraulic systems, and air, gas, steam, or water pressure, etc. must be dissipated or restrained. Combinations of these

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energy sources and any stored energy require a specific procedure, in this case consult Appendix F for the applicable specific procedure.

4. Apply lockout, block out and/or tag out device.
  - (a) Locks, blocks and tags shall be affixed to each energy-isolating device only by an “authorized” employee.
  - (b) Locks and tags shall be singularly identified.
  - (c) Locks shall be affixed in a manner that will hold the energy isolating device in a safe or off position. Locks should be labeled with the name and cell phone number of the owner.
  - (d) Tags, when used, shall be affixed in a manner that will clearly indicate that the operation or movement of the energy isolating device from the “safe” or “off” position is prohibited.
  - (e) Tags that cannot be affixed directly to the energy isolating device shall be located as close as possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.
  - (f) All potentially hazardous stored or residual energy shall be relieved, disconnected, restrained or otherwise rendered safe. If there is a possibility of re-accumulation of stored energy to a hazardous level, verification of isolation shall continue until that possibility no longer exists. Stored energy may require blocks, blinds, flanges, etc. in order to appropriately control stored energy.
  - (g) After ensuring that no personnel are exposed, operate the push button or other normal operating controls to make certain the equipment or machine will not operate.

**CAUTION: RETURN OPERATING CONTROL(S) TO “NEUTRAL” OR “OFF”  
POSITION AFTER THE TEST IS COMPLETED.**

5. The equipment is now locked out or tagged out.

*Testing or Positioning of Machines, Equipment, or Components Thereof*

In situations where lockout, block out or tag out devices must be temporarily removed from the energy isolating device and the machine or equipment energized to test or position the machine, equipment or part thereof, the following sequence of actions shall be followed:

  - (a) Remove employees from the machine or equipment area.
  - (b) Remove the lockout, tag out device.
  - (c) Energize the machine or equipment and proceed with testing or positioning.
  - (d) De-energize all systems and reapply the energy control measures in accordance with the requirements set forth in this instruction manual.

*Restoring Machines or Equipment to Normal Operating Mode*

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1. After serving and/or maintenance is complete and the equipment is ready for normal operating mode, check the area around the machines or equipment to ensure that all employees, tools and materials have been removed from the area.
2. Remove all lockout or tag out devices. Operate the energy isolating devices to restore the energy to the machine or equipment.

### *Procedure Involving More Than One Person*

In the preceding steps, if more than one individual is required to lockout or tag out equipment, each person shall place his/her assigned lockout device or tag out device on the energy isolating device(s). When an energy isolating device cannot accept multiple locks or tags, a multiple lockout or tag out device (hasp) may be used.

**Employees will not give their locks, tags or keys to another person.**

### *Removal of Lockout or Tag out Devices*

Lockout/tag out devices shall be removed from the energy isolation device by the employee who applied it, EXCEPT:

1. Lockout/tag out devices may be removed by Electrical/Mechanical Supervisor if the authorized employee who applied it is not available on campus and:
  - (a) It is verified that the authorized employee who applied the device is not on campus, and;
  - (b) All reasonable efforts were made to contact the authorized employee to inform him/her that his/her lockout or tag out device is being removed, and;
  - (c) The authorized employee is made aware that his/her device was removed prior to resuming work at the facility.

### *Informing Outside Contractors*

The Assistant Director, for the Office of Facilities Management, and/or the Construction Projects Manager will inform all outside contractors of this program, and make sure the contractors understand the program and ensure that they are within compliance at all times.

### *Shift or Personnel Changes*

In the event of a shift or personnel changes, a change over period will be established so that the authorized employees may exchange their assigned locks/tags. Authorized personnel assuming control of lockout will be fully briefed in the scope and stage of the work by those who are being relieved of their duties.

### *Periodic Evaluations*

Periodically (at least annually) the effectiveness of the entire program will be evaluated by an authorized employee other than the one utilizing the energy control procedure being evaluated. Any deviations or inadequacies shall be documented and corrected. These annual evaluations will be conducted during the month of February.

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The date of the evaluation will be documented on the Annual Evaluation Report, Appendix B.7 and maintained as a part of this program until the annual next evaluation replaces it.

### *Training*

Training shall be given to all authorized, affected and other personnel as required by this policy. Key Points for LOTO Training, Appendix B.8, plus appropriate sections of this policy will be used as a training outline.

The Skilled Trades Supervisor and the OSC will conduct the training and prepare a record to certify the employee training has been completed. The certification will be made using LOTO Training Record and Certification, Appendix B.9. Re-training will be conducted when there is:

- (a) A change in their job assignments,
- (b) A change in machines, equipment that may present a new hazard or
- (c) A periodic evaluation reveals, or whenever there is reason to believe that the employee's knowledge or use of the energy control procedures are not correct.

### *Electrical Work Practices*

The adoption of the following elements for electrical work is designed for in facility electrical work. This adoption of the following requirements is not intended to be used for high voltage work (over 600 volts), or exposure to overhead power lines.

### *Electrical Lockout/Tag out*

Electrical work requires a lock and a tag to be used together. However, a tag can be used by itself only if the electrical disconnecting source does not have lockout capabilities.

Locks can be placed without a tag only under the following conditions if:

- (a) Only one circuit or piece of equipment is de-energized.
- (b) The lockout period does not extend beyond the work shift.
- (c) Employees exposed to the hazards associated with re-energizing the circuit or equipment are familiar with the procedure.

### *Electrical Test Verification of De-Energized Circuits (29 CFR 1910.333(b) (iv) (B)*

A qualified person shall use test equipment to test the circuit elements and electrical parts of equipment to which employees will be exposed and shall verify that the circuit elements and equipment part are de-energized. The test shall also determine if any de-energized condition exists as a result of inadvertently induced voltage back-feed, even though specific parts of the circuit have been de-energized and presumed safe. If the circuit to be tested is over 600 volts, nominal, the test equipment shall be checked for proper operation immediately before and immediately after this test has been conducted.

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*Work on Energized Circuits*

Approval must be obtained from the Electrical/Mechanical Supervisor, the Assistant Director, of Facilities Management and the Occupational Safety Coordinator prior to any work on energized circuits being utilized. The Electrical/Mechanical Supervisor will verify that de-energizing circuits will create additional hazards if infeasible due to equipment or operational limitations.

**NOTE: Working on energized parts requires the wearing of appropriate personal protective equipment. The Electrical/Mechanical Supervisor and the Occupational Safety Coordinator will be responsible for specifying appropriate personnel protective equipment to be used, to ensure compliance with 29 CFR 1910.355. Personal protective equipment for electrical hazards shall meet, be utilized and maintained in accordance with ANSI J6.1 through J6.7. Qualified employees for electrical work shall be aware of and follow the approach distance for qualified employees regarding alternating current as specified in Table S-5, 29 CFR 1910.333.**

*Accidents Concerning Lockout/Tag out*

Electrical/Mechanical Supervisor and the Occupational Safety Coordinator will be responsible for fully investigating all lockout/tag out accidents or incidents to determine the cause of such accidents/incidents and report such information to the Director, of Facilities Management. If the accident/incident involved the control of hazardous energy with a single lockout source, a specific procedure will be developed and included in Appendix C before work is continued.

If the accident/incident involved a specific procedure for a piece of equipment, the lockout/tag out specific procedure will be evaluated and modified (if necessary) prior to authorizing work to continue.