

Lockout/Tagout Program

1) PURPOSE

- a) Bucknell University is committed to operating its campus in the safest manner possible, with concern for the individual and the protection of the environment in accordance with all applicable Federal and State statutes. Lockout/Tagout Program, as outlined in the following sections, has been prepared to comply with applicable regulations promulgated by the Occupational Health and Safety Administration in particular Title 29 of the Code of Federal Regulations standard 1910.147. This program establishes the requirements that faculty and staff must meet in order to properly understand both the physical and the health hazards associated with working alongside hazardous energy of all types at Bucknell University. All employees who will either work with or around hazardous energy shall make every effort to comply with this program. Additionally, Bucknell University will make every effort to identify the hazards in the workplace as well as provide adequate protection and education on the hazards they may encounter while working at Bucknell University.

2) SCOPE and APPLICATION

- a) This program applies to all employees who are required to work with or around hazardous materials or energy (i.e. electricity, steam, hot water, etc.), that can be prevented through proper lockout/tagout procedures, during normal work operations and during some non-routine or emergency operations. This program does not apply to Bucknell University Laboratories during normal lab functions. All employees working or engaged in certain process or tasks must be adequately trained in Lockout/Tagout.

3) RESPONSIBILITIES

a) Program Administrator

- i) The program administrator for this program is Jeremy Fanning, EH&S Coordinator.
- ii) The Program Administrator is responsible for administering the Lockout/Tagout Program. Duties of the program administrator include:
 - (1) Working with administrators and other employees to develop and implement the lockout/tagout program and procedures.
 - (2) Assisting supervisors in assessing workplace hazards.
 - (3) Assisting supervisors with periodic inspections.

(4) Scheduling training/retraining and maintaining training records

(5) Annually reviews the Lockout/Tagout Program

b) Supervisors

i) Supervisors are responsible for ensuring that the lockout/tagout program is implemented in their particular area. In addition to being knowledgeable about the program requirements for their own protection, supervisors must also ensure that the program is understood and followed by the employees under their charge. Duties of the manager/supervisor include:

(1) Notifying employees of the lockout/tagout program.

(2) Identifying all authorized and affected employees who require training or retraining on lockout/tagout

(3) Developing equipment-specific lockout/tagout procedures.

(4) Conducting periodic lockout/tagout inspections.

(5) Providing authorized employees with individually assigned lockout and tagout devices

(6) Ensure that safe and healthy working conditions for employees are maintained.

c) Employees

i) Each employee has the responsibility to follow the lockout/tagout program in the manner in which they were trained. Employees must also:

(1) Attending required training/retraining

(2) Following lockout/tagout procedures as outlined in Section 4(a) of this program.

(3) Reporting changes in the workplace that prevent employees from following Lockout/Tagout procedures to their supervisor.

4) PROGRAM ELEMENTS

a) Energy Control Procedures

i) Lockout Procedure

(1) The authorized employee(s) shall be familiar with the sources of hazardous energy for the equipment that will be serviced.

(2) Notify all affected employees that a machine or piece of equipment is going to be locked out or tagged out.

- (3) Shut down the machine or equipment via proper stopping procedure (press stop button, open toggle switch, etc.)
 - (4) Operate the switch, valve, or other isolating device(s) so that the equipment is isolated from its energy source(s). Take any steps necessary to control other hazardous energy sources. Stored energy (such as that in 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 blocking, bleeding, etc.
 - (5) Lockout and/or tagout the energy isolating devices with assigned individual lock(s) and/or tag(s), method(s), selected locks, tags, and any other additional safety measures that may be required.
 - (a) Locks or tags shall be affixed only by an “authorized employee”
 - (b) Locks or tags 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.
 - (c) Tags 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” is strictly prohibited.
 - (6) After ensuring that no personnel are exposed, and as a check that the energy source(s) are disconnected, operate the push button or other means to ensure that the equipment/device is at a state of zero energy, i.e. checking receptacle with an electrical meter.
 - (a) **Caution: Return operating control(s) to “neutral” or “off” position after test**
 - (7) The equipment is now lock or tagged out.
- ii) Procedure for removing lockouts
- (1) Remove tools and other unnecessary equipment from the machine and work area. Make sure that guards are correctly returned to proper place.
 - (2) Inspect the machine and its components. Make sure that if it is ready to be operated.
 - (3) Make sure all workers are clear of the machine.

- (4) Remove all locks, tags and any other energy restraints.
 - (5) Operate the energy isolating devices to restore energy to the machine or equipment.
- iii) Procedure for work involving multiple workers
 - (1) In the preceding steps, if more than one individual is required to lockout/tagout equipment, each shall place his/her assigned lockout device on the energy isolating device(s). When an energy-isolating device cannot accept multiple locks, a multiple lockout device may be used.
- iv) Shift or personnel changes
 - (1) In the case of shift or personnel changes, if the work on the machine will not be complete or the machine will remain under the lockout/tagout, the authorized employee's lock and tag will remain. If this situation is not possible, it is the responsibility of the individual who originally locked out the machine to personally take the individual who will resume the responsibility to the locked out area and make sure the next individual's locks and tags are in place prior to removing the original person's lock.
- v) Removal of Absent Employee's Locks
 - (1) Lockout/tagout devices SHALL ONLY be removed from an energy-isolating device by the individual that applied it, EXCEPT:
 - (2) Lockout/tagout devices may be removed by the Supervisor or Program Administrator if the authorized individual that applied it is not available and:
 - (a) It is verified that the authorized employee who applied the device is not at the facility;
 - (b) All reasonable efforts were made to contact the authorized employee to inform him/her that his/her lockout device has been removed;
 - (c) The authorized employee has this knowledge before he/she resume work.
- b) Lock and Tag Requirements
 - i) Locks, tags, chains, wedges, key blocks, adapter pins, self-locking fasteners, or other hardware shall be provided by Bucknell University for isolating, securing or blocking of machines or equipment from energy sources.
 - ii) Lockout devices and tagout devices shall be singularly identified, shall be the only devices used for controlling energy; shall not be used for other purposes and shall meet the following requirements
 - (1) Lockout Devices

- (a) Shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
 - (b) Shall be standardized within the facility in at least one of the following criteria:
 - (i) Color
 - (ii) Shape
 - (iii)Size
 - (iv)Other Identifier
 - (c) Shall be substantial enough to prevent removal without the use of excessive force or unusual techniques, such as with the use of bolt cutters or other metal cutting tools.
 - (d) Shall indicate the identity of the employee applying the device(s).
- (2) Tagout Devices
- (a) Shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected.
 - (b) Shall be constructed and printed so that exposure to weather conditions or wet and damp locations will not cause the tag to deteriorate or the message on the tag to become illegible.
 - (c) Shall not deteriorate when used in corrosive environments such as areas where acids and alkali chemicals are handled and stored.
 - (d) Shall be standardized within the facility in at least one of the following areas:
 - (i) Color
 - (ii) Shape
 - (iii)Size
 - (iv)Shall also have standardized print and format
 - (e) Tagout devices, including their means of attachment shall be substantial enough to prevent inadvertent or accidental removal. Tagout device attachment means shall be of a non-reusable type, attachable by hand, self-locking, and non-releasable with a minimum unlocking strength of no less than 50 pounds and having the general design and basic characteristics of

being at least equivalent to a one-piece, all environment-tolerant nylon cable tie.

- (f) Tagout devices shall indicate the identity of the employee applying the device(s).
- (g) Tagout devices shall warn against hazardous conditions if the machine or equipment is energized and shall include a legend such as the following:
 - (i) **Do Not Start**
 - (ii) **Do Not Open**
 - (iii) **Do Not Close**
 - (iv) **Do Not Energize**
 - (v) **Do Not Operate**

c) Training Requirements

i) Initial Training

- (1) Bucknell University shall provide training to ensure employees understand the purpose and function of the lockout/tagout program and that employees have acquired the knowledge and skills required for the safe application, usage, and removal of lockout/tagout devices.
- (2) Authorized employees will receive training including, but not limited to the following:
 - (a) How to recognize hazardous energy sources.
 - (b) The type and magnitude of energy available in the workplace
 - (c) The necessary lockout/tagout procedures to be followed for energy isolation and control
- (3) Affected employees will receive training including, but not limited to the following:
 - (a) The purpose and use of lockout/tagout procedures
 - (b) Prohibitions relating to attempts to restart or reenergize machines or equipment which are locked out or tagged out

d) Safe Work Permit

- i) The Lockout/Tagout section of the Safe Work Permit must be completed during the following conditions:

(1) A Confined Space is being entered that involved Lockout/Tagout.

(2) Hot Work is being done that involves Lockout/Tagout.

5) PROGRAM EVALUATION

- a) The Program Administrator will conduct periodic evaluations of the workplace to ensure that the requirements of this program are being implemented. The evaluations will include meeting with employees and supervisors as well as site inspections.
- b) The Program Administrator will also conduct an annual evaluation of the Lockout/Tagout Program.

6) DOCUMENTATION and RECORDKEEPING

- a) A written copy of this program is available in the EHS office. It is available to all employees who wish to review it. The program can also be found on the Environmental, Health and Safety page of the Bucknell University website. The OSHA standard can be found on OSHA's website.
- b) Also maintained by the EHS department are copies of training records. These records will be updated when: new employees are trained, existing employees receive refresher training, and when any changes are made to the program requiring training to be conducted.

7) REVISION HISTORY