NOVA SOUTHEASTERN UNIVERSITY	ENVIRONMENTAL HEALTH AND SAFETY
POLICY/PROCEDURE TITLE: Lockout Tagout Program	POLICY/PROCEDURE NUMBER: 18

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Section 1: Purpose
The purpose of this Lockout/Tagout is to provide guidance and describe requirements for release of hazardous energy at Nova Southeastern University (NSU). Requirements for management of Lockout/Tagout are found in the Occupational Safety and Health Administration (OSHA) Standard 29 CFR 1910.147, The Control of Hazardous Energy Sources (Lockout/Tagout), this applies to all areas on campus where hazardous energy is generated.

Section 2: Definitions
Affected Employee - an employee who operates or uses a machine or equipment on which servicing or maintenance is performed under lockout/tagout, or who works in an area in which such servicing or maintenance takes place.

Authorized Employee - an employee who is primarily responsible for his or her personal safety by locking and tagging out machines or equipment to service or maintain them.

Energized - Connected to an energy source or containing residual or stored energy.

Energy Isolating Device - a mechanical device that physically prevents the transmission or release of energy. Examples: electrical circuit breakers, disconnect switches, line valves or blocks. [Note: push buttons, selector switches and other control circuit-type devices are not energy-isolating devices].

Energy source - Any source of electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy.

Lockout/Tagout - the placement of lockout and tagout devices on an energy isolating device, according to the established procedures of this policy

Lockout Device - A device that utilizes a positive means such as a lock, either key or combination type, to hold an energy isolating device in the safe position and prevent the energizing of a machine or equipment. Included are blank flanges and bolted slip blinds.

Setting up - Any work performed to prepare a machine or equipment to perform its normal production operation.

Tagout - The placement of a tagout device on an energy isolating device, in accordance with an established procedure, to indicate that the energy isolating device and the equipment being controlled may not be operated until the tagout device is removed.

Tagout Device - a warning tag stocked by Central Stores (catalog # 1428.1003), or equivalent device.

Section 3: Training
Employees must be trained according to their assigned duties. Training will be conducted by the Department of Environmental Health & Safety in conjunction with appropriate supervisors. The following training is required:

3.1. Authorized employees will receive initial training in how to recognize hazardous energy sources, the type and magnitude of the energy available in the workplace, and the required Lockout/Tagout procedures to be followed to ensure energy isolation and control.

3.2. Affected employees will be instructed in the purpose, use and restrictions of Lockout/Tagout and how to recognize that Lockout/Tagout is being implemented

3.3. Authorized and affected employees will receive retraining whenever:
a. their job assignments change;
b. a change in machines, equipment or processes creates a new hazard;
c. Lockout/Tagout procedures change; or
d. observations or inspections reveal that an employee is not following or does not fully understand the Lockout/Tagout procedures

3.4 NSU conducts retraining whenever there is reason to believe that there are deviations from or inadequacies in the employee's knowledge or use of the energy control procedures.

Section 4: Scope

This policy applies to the servicing or maintenance of machines and equipment where the unexpected energization, start-up or release of stored energy could cause injury to employees. Examples of applicable energy sources include, but are not limited to, electrical, thermal, mechanical, hydraulic, pneumatic and chemical

Exemptions:

4.1 Minor servicing activities taking place during normal operations that are routine, repetitive and integral to the use of the machine or equipment, provided that:
a) There is no bypass or removal of guards or other safety devices; and
b) Employees are not required to place any part of their bodies into a point of operation, or where other associated dangers exist.

4.2 Minor printing press servicing activities taking place during normal operations that are routine, repetitive and integral to the use of the printing press which can be safely accomplished by employees provided that:
a) Extensive disassembly of equipment is not required to perform the servicing
b) Effective alternate protection measures are used which allow an employee to perform minor servicing without being exposed to the unexpected release of hazardous energy (i.e., using special tools or techniques such as the inch-safe-service technique). [Note: OSHA's interpretation of the Lockout/Tagout and Machine Guarding standards, as they apply to printing presses, is available from the Department of Environmental Health and Safety).

4.3 Cord and plug connected electrical equipment that, when unplugged, contains no stored energy and cannot be unexpectedly energized. The plug must be under the exclusive control of the authorized employee working on the equipment. [Note: a plug is in exclusive control of an employee if it is physically in the employee's possession, or within arm's reach and in the line of sight of the employee.]

4.4 Hot Tap operations (e.g., welding on a steam line) where the continuity of service is essential, a shutdown of the system is impractical, documented procedures are followed and special equipment is used which provides proven effective protection for employees.

Section 5: General Lockout/Tagout procedures

To be used when machinery or equipment has only one energy source. To conduct any service or maintenance work on machines or equipment, authorized employees must follow the following:

5.1 Prepare for Shutdown locate and identify all energy isolating devices that apply to the machine or equipment to be locked out. (If more than one energy source is involved, the Machine-Specific Lockout/Tagout Procedures in Section 6 must be followed).

5.2 Notify all **affected employees** that a lockout/tagout is about to take place, the reason for the lockout/tagout, and the specific machinery or equipment affected.

5.3 Shut down the machine or equipment by its normal stopping procedure.

5.4 Isolate operate the disconnect switch, circuit breaker, valve or other energy isolating device to isolate (disconnect) the machine or equipment from its energy source.

5.5 Lockout and Tagout apply individually assigned lockout and tagout devices to the energy isolating device.

5.6 Relieve/Restrain Stored Energy exhaust or restrain stored or residual energy in the machine or equipment by grounding, blocking, bleeding down, etc.

5.7 Verify Isolation clear the area around the machine or equipment of nonessential objects. Make sure that all personnel are safely positioned or removed from the area. Then test all the operating controls by putting them in the "on" position to ensure that the energy source has been successfully disconnected.

5.8 CAUTION: Return the operating control(s) to the neutral or off position before proceeding with servicing or maintenance work.

LOCKOUT/TAGOUT IS NOW COMPLETE - the authorized employee may proceed with servicing or maintenance work.

5.9 Restart Procedures Removal of Locks and Tags

5.10 Check Machine/Equipment - and surrounding area to ensure that nonessential objects have been removed, guards have been reinstalled and that the machine/ equipment is operationally intact.

5.11 Verify - controls on the machine/equipment are in the neutral or off position and that all employees are safely positioned or removed from the area.

5.12 Remove Locks and Tags - devices and reenergize**.**

5.13 Notify Affected Employees - before restarting machinery/equipment, notify affected employees that the servicing or maintenance is complete and that locks and tags have been removed.

Section 6: Machine Specific Lockout/Tagout Procedures

To be used when machinery or equipment has more than one energy source that must be controlled to perform service/maintenance work. If servicing or maintenance work requires controlling more than one energy source on a machine, written Lockout/Tagout Procedures must be developed for each specific machine. If the methods to control energy sources are identical for a group of machines, then one set of procedures may be developed for the group. Environmental Health and Safety is available to assist in developing machine-specific procedures.

Section 7: Special Situations

7.1 Group Lockout/Tagout Whenever more than one authorized employee performs Lockout/Tagout, each individual group member must follow the Lockout/Tagout procedures outlined in this policy. Employees must NEVER depend upon someone else's lockout device, and must ALWAYS use their individually assigned lockout device. Individual departments are encouraged to develop written programs for complex operations (especially those conducted regularly) that involve group lockout/tagout. Environmental Health and Safety is available to assist in developing written programs.

7.2 Using Tagout Only Tagout without a lock is allowed ONLY when machinery or equipment is incapable of being locked out. Tagout may be implemented ONLY with the prior knowledge and approval of the appropriate supervisor, using the following procedures.

7.2.1 The authorized employee will advise the supervisor that lockout is not possible.

7.2.2 The authorized employee and supervisor will determine if other equally effective controls can be implemented, such as the removal of a valve stem, isolating a circuit element, or by blocking a controlling switch.

7.2.3 Supervisors must provide training to the authorized and affected employees involved in the tagout operation at the time tagout is to be conducted.

7.2.4 The authorized employee will follow the applicable Lockout/Tagout Procedures outlined in this policy, omitting lockout.

7.2.5 The authorized employee will securely attach his/her tagout device to the energy isolating device where a lockout device would have been attached, if possible.

7.3 Shift Changes

7.3.1 When machines must be serviced by more than one shift, a procedure must be established for the orderly transfer of responsibility from one shift to another. In developing this procedure, the following must be taken into account:

7.3.2 Each authorized employee must ensure that equipment he/she is working on is locked and tagged out with his/her individually assigned lockout and tagout device. Employees must NEVER depend on someone else's lockout device for protection.

7.3.3 Authorized employees must remove their individually assigned lockout and tagout devices once service or maintenance work is completed.

7.3.4 Lockout/Tagout devices must NEVER be left on beyond an authorized employee's work shift without supervisor approval.

7.4 Removing Lockout and Tagout Devices

7.4.1 The key to each lockout device must be in the sole possession of the employee to which it was assigned. Only the authorized employee who applied the lockout or tagout device may remove it, except as noted below.

7.4.2 EXCEPTION: When the authorized employee who applied a lockout or tagout device is not available to remove it, the device may be removed ONLY under the direction of TWO supervisors provided that:

7.4.3 Absolute verification has been made that the employee is not on University grounds or otherwise available.

7.4.4 Every reasonable effort has been made to contact the employee to notify him/her that his/her lockout/tagout device has been removed.

7.4.5 The employee is informed before returning to work that his/her lockout/tagout device has been removed.

Section 8: Periodic Inspections

Documented periodic inspections must be made at least annually by EHS to verify that Lockout/Tagout procedures are understood by employees and are being followed properly. A form in Appendix A is provided for this purpose, a copy of which should be sent to the affected NSU department. Environmental Health and Safety is available to assist in conducting periodic inspections.

Section 9: Outside Contractors

Nova Southeastern University's Lockout/Tagout policy must be made available for review to all prospective bidders of a contract involving activities subject to OSHA's Lockout/Tagout regulations (29 CFR 1910.147). Lockout/Tagout procedures must be exchanged and coordination of procedures must be discussed between the Contractor and the University during a pre-job meeting.

All concerned University employees must be effectively informed of the restrictions and prohibitions associated with the outside Contractor's Lockout/Tagout procedures.

Section 10: Responsibilities

10.1 Supervisors will:

1. Notify employees of the University's Lockout/Tagout Policy, and make the policy readily available to them.

2. Identify and schedule all authorized and affected employees for initial training on Lockout/Tagout with Environmental Health and Safety.

3. Schedule employees for retraining with Environmental Health and Safety, as required by this policy.

4. Develop Machine-Specific Lockout/Tagout procedures, as required by this policy.

5. Conduct periodic Lockout/Tagout inspections, correcting any deviations or inadequacies observed, as required by this policy.

6. Provide authorized employees with individually assigned lockout and tagout devices.

10.2 Employees will:

1. Familiarize themselves and comply with the University's Lockout/Tagout Policy.

2. Attend training sessions, as required by the policy.

3. Notify supervisors of any change in their workplace or job duties which prevent them from following Lockout/Tagout procedures.

4. Always follow the Lockout/Tagout procedures outlined in this policy when performing service or maintenance work on machines or equipment.

5. Use only approved lockout and tagout devices for Lockout/Tagout. Never use lockout or tagout devices for any purpose other than to perform Lockout/Tagout.

6. Remove their individually assigned lockout and tagout devices once service or maintenance work is completed. Lockout/Tagout devices may not be left on beyond an authorized employee's work shift without supervisor approval.

10.3. Environmental Health & Safety will…

1. Provide a written programdevelop, implement and maintain the University's Lockout/Tagout Policy.

2. Inspections annually inspect the lockout/tagout procedure and ensure it is followed.
3. Provide employee training provide lockout/tagout training to employees.
4. Maintain attendance records of training sessions.
5. Maintain copies of periodic Lockout/Tagout program inspections;