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I. Purpose

The North Carolina Central University Lockout/Tagout (LOTO) Program establishes procedures that are required of all employees including students, staff, and faculty in compliance with the Occupational Safety and Health Administration [29 CFR 1910.147](#) and [29 CFR 1910.269](#) which cover 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 harm employees.

As an employer, NCCU must:

- Develop and implement a formal, written lockout tagout program.
- Train personnel in the LOTO program.
- Enforce the program to ensure hazardous energy is controlled during work.

II. Scope

This plan will apply to all affected and authorized NCCU employees and all other employees whose work operations are or may be in an area where energy control procedures may be utilized.

This program governs the servicing and maintenance of machines and equipment, in which the unexpected start up or energization of the equipment, or release of stored energy, has the potential to cause injury to personnel. Energy sources include electrical, mechanical (hydraulic, pneumatic), chemical, thermal (steam), gravity, electromagnetic fields, as well as other sources of energy.

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This program applies to all NCCU-owned, leased or operated facilities. All NCCU personnel and contractors under NCCU control must comply with this program.

The control of hazardous energy is required during activities necessary to prepare or maintain a machine or piece of equipment. These servicing and/or maintenance activities may include constructing, installing, setting up, modifying, maintaining, lubricating, cleaning, un-jamming, making minor adjustments, and tool changes. Servicing and/or maintenance during normal machine or equipment operations are covered whenever employees perform the following actions:

1. Remove or bypass machine guards, open enclosures or other safety devices;
2. Place any part of their bodies in or near a machine's moving parts; or
3. Place any part of their bodies in a danger zone associated with machine operation.

III. Definitions

Affected employee: An employee whose job requires them to operate or use a machine or equipment on which servicing or maintenance is being performed under LOTO or whose job requires him/her to work in an area in which such servicing or maintenance is being performed.

Authorized employee: A person who locks out or tags out machines, equipment, or electrical circuits in order to perform servicing or maintenance on that machine or equipment. An affected employee becomes an authorized employee when that employee's duties include performing servicing or maintenance covered under this section.

Capable of being locked out: An energy isolation device is capable of being locked out if it 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. Other energy isolating devices are capable of being locked out, if lockout can be achieved without the need to dismantle, rebuild, or replace the energy isolating device or permanently alter its energy control capability.

Energized: Connected to an energy source, or containing residual or stored energy.

Energy isolating control or device: A mechanical device that physically prevents the transmission or release of energy. This includes, but is not limited to the following:

- Manually operated electrical circuit breakers
- Disconnect switches

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- Manually operated switches that disconnect the conductors of a circuit from all ungrounded supply conductors if no pole of the switch can be operated independently
- Line valves
- Blanks, blinds, blocks, or similar devices that are used to block or isolate energy
- Removal of wires or sections of pipe
- Installation of blocks, wedges and cribbing
- Similar devices used to block or isolate energy. Push buttons, selector switches and other control circuit type devices are not energy isolating devices.

Lockout: The placement of a lockout device on an energy isolating device, in accordance with an established procedure, ensuring that the energy isolating device and the equipment being controlled cannot be operated until the lockout device is removed.

Primary Authorized Employee: The authorized employee who has overall responsibility for meeting the requirements of the lockout/tagout procedures when working in a group.

Qualified person. One familiar with the construction and operation of the equipment and the hazards involved, and has met all training requirements outlined below. An employee who is undergoing on-the-job training and who, in the course of such training, has demonstrated an ability to perform duties safely at his or her level of training and who is under the direct supervision of a qualified person is considered to be a qualified person for the performance of those duties.

Servicing and/or Maintenance: Workplace activities such as constructing, installing, setting up, adjusting, inspecting, modifying, and maintaining and / or service machines or equipment. These activities include lubrication, cleaning or unjamming or machines or equipment and making adjustments or tool changes, where the employee may be exposed to the unexpected energization or startup of the equipment or release of hazardous energy.

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.

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IV. Responsibility

A. Environmental Health and Safety

- Assist with development and review of departmental equipment-specific LOTO procedures and training
- Conduct periodic inspections to verify departmental compliance with the LOTO Program Provide required general training
- Review and update NCCU LOTO Program as necessary

B. Directors, Assistant Directors, Managers, and Principal Investigators

- Provide resources and personnel necessary to comply with the LOTO Program
- Determine the applicability of the LOTO program to activities conducted in their areas
- Designate individuals responsible for the implementation of the LOTO program
- Ensure that equipment specific LOTO plans are developed and trained
- Ensure compliance with the program

C. Work Unit Supervisors

- Implement LOTO program with employees
- Assist with the development, enforcement and update of equipment-specific LOTO procedures Work with other departments to develop LOTO procedures for co-maintained and operated equipment
- Ensure all employees involved in LOTO activities have the appropriate level of training
- Evaluate the needs of their areas and provide employees with resources required to safely perform LOTO
- Conduct annual inspections of employees performing LOTO
- Ensure Contractors provide LOTO plans and work with them to approve joint procedures

D. Authorized Employees

- Preparing machine or equipment specific LOTO procedures
- Reporting the presence of equipment for which LOTO procedures have not been established and which pose a potential for injury should an unexpected start-up, energization or release of stored energy occur during servicing or maintenance.

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- Placing and removing locks and tags
- Communicating and coordinating LOTO efforts with all Affected and Other personnel including building coordinators and facility managers.

E. Affected Employees

- Understanding that no person should ever touch or try to actuate an energy source that has been locked and tagged in the off position by someone else
- Understanding and following instructions from Authorized Personnel
- Seeking out trained, designated and Authorized Personnel to service and maintain equipment that possess an energy source that could potentially be hazardous
- Provide assistance to Authorized Employee as requested to ensure proper shutdown and identification of isolation devices
- Ensuring that all incidents and near misses involving the release of hazardous energy are reported to their supervisor as soon as possible.

F. Contractors

- Inform NCCU of their LOTO procedures
- Work with NCCU to determine and approve joint LOTO procedures
- Ensure their employees understand and comply with all requirements of the approved joint procedures

V. Equipment Specific Procedures

Departments shall develop and document equipment specific lockout/tagout procedures that provide enough detail for personnel to understand the energy control measures. Written procedures are required when:

- The equipment has more than one energy source
- The equipment has energy sources that are not obvious
- The equipment stores energy or can accumulate energy after shut down
- More than one device is required to lock out the equipment
- The machine or equipment has not previously been isolated from the energy source and locked out during service or maintenance

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- The lockout device is not able to be under the exclusive control of the employee working on the equipment
- The work creates a hazard to other personnel

Equipment-specific procedures must be written by Authorized Personnel with knowledge of the operation of the equipment being locked out. The procedures for restoring normal operations must be included in the procedures.

A separate procedure is not required for each machine or piece of equipment. Similar machines and/or equipment with the same or similar types of controls, and which can be rendered safe using the same sequential procedural steps, can be covered by a single procedure.

To assist with the development of equipment specific procedures, complete an [LOTO Procedure Development Form](#) (Appendix A).

A. Inspections and Recordkeeping

Each department must review written LOTO procedures for accuracy at least annually. The inspections may be accomplished through random audits, safety tours, or planned visual observations and documented on the [Periodic Inspection Certification](#) (Appendix B). The inspector must be an authorized employee other than the ones utilizing the energy control procedure being inspected. Copies of all Inspection Certificates should be kept in Department files and made available to internal and external inspectors upon request.

VI. Devices

The preferred method of isolation is LOTO using locks AND tags. The physical protection offered by the use of a lock, when supported by the information provided on a tag, provides the greatest assurance of employee protection from the release of hazardous energy.

A. Locks

All personnel locking out equipment must use locks designated for LOTO. NCCU requires the use of locks that are standardized and designated for LOTO by color, shape, or size. Only keyed locks (not combination locks) may not be used for LOTO and these locks may not be used for anything unrelated to lockout/tagout. Each LOTO lock will be issued with only one key.

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B. Keys

Keys to LOTO locks must remain in possession of the individual who applied them whenever equipment is locked out.

C. Tags

Tags are warning devices that do not provide the physical restraint on energy-isolating devices as offered by lockout devices.

The following criteria pertain to tag out devices:

- Durable enough to withstand conditions in the workplace environment. Tagout devices must not deteriorate or become illegible, even when used in conjunction with corrosive components such as acid or alkali chemicals or in wet environments.
- Standardized according to print and format.
- Attached in a manner that is substantial enough to minimize the likelihood of early or accidental removal.
- Must remain affixed throughout the duration of the servicing or maintenance job
- Must state the word DANGER
- Located as close as safely possible to the means, in a position that will be immediately obvious to anyone attempting to operate the device
- Must include the following information: reason for lockout, name of person performing the work, contact information for authorized employee, and date and time the tag was applied



Tagout alone is only permitted when an energy-isolating device is not capable of being locked. To ensure that a tagout system provides full employee protection, at least one additional safety measure must be used in addition to tagging the energy isolation device. Any additional control measure must be integrated into equipment specific procedures through sound hazard-specific analyses on a case-by-case basis. Such additional safety measures might include:

- Closure of a second in-line valve (e.g., double block and bleed)

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- Removal of a valve handle
- Removal of an additional isolating circuit element (e.g., fuse)
- Opening of an extra disconnecting device (e.g., disconnecting switch; circuit breaker)
- Opening and then racking out a circuit breaker

- Grounding of an electrical circuit, if the grounding practice would protect the employee if the tagged isolating device were operated
- Locking, blocking, or barricading a controlling switch.

Document supervisor approval and any additional safety measure on the [Tagout Justification Form](#) (Appendix C).

VII. Training

Authorized Personnel must receive training on the recognition of situations involving hazardous energy, recognition of safety locks and tags, and what NCCU policies and procedures are in place:

- Ensure personnel understand the purpose and function of the LOTO program
- Provide the knowledge and the skills necessary to carry out program responsibilities
- Ensure Authorized Personnel will be able to recognize hazardous energy sources, and have the methods and means to isolate and control energy
- Give an explanation of the use of lockout procedures to be used on the job
- Give a clear understanding that attempting to restart or reenergize equipment that is locked and tagged out is never allowed
- Inform Authorized Personnel that tags are warning devices that do not provide the same level of protection as a lock. Tags are a secondary measure. However, tags should be treated as lockout devices such that they should only be removed by the person who placed it.
- Communicate the need to inform and communicate with all Affected Personnel prior to starting work requiring LOTO procedures

Affected employees will participate in the same training as Authorized employees to ensure they understand their role and the limitations of their role.

Other Personnel must complete [awareness training](#) which covers the purpose and use of the energy

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control procedure.

The training should be refreshed as required when regulations change, processes change, or when the department has reason to believe that refreshing the training is necessary to maintain a safe LOTO practice.

EHS provides initial LOTO training on the NCCU LOTO Plan to all individuals and specific training to all authorized and affected employees. Individual departments must provide and document equipment/location specific training prior to allowing employees to begin any servicing and maintenance activities.

Retraining will be provided if an inspection reveals, or an employer has reason to believe, that there are deviations from the application of the energy control procedure or inadequacies in an employee's knowledge of the energy control procedure. The scope and content of all the retraining must be based upon the severity of the problems encountered and must be directed toward the elimination of those problems. Additionally, retraining must be provided for all authorized and affected employees whenever there is a change in job assignment, energy control procedures or hazards.

All department specific training rosters and materials must be retained by each department and made available to EHS and other inspectors as requested.

VIII. Energy Control Procedures

A. Lockout/Tagout

- 1) **Locate and identify all energy sources isolating devices.** More than one energy source (electrical, mechanical, or others) may be involved. Authorized employees also must be certain that local on/off control of the equipment is achievable. Before lockout commences, employees shall clear any questionable identification of energy sources with their supervisors.
- 2) **Notify affected employees.** The authorized employee checks to be sure that no one is operating the machinery before turning off energy sources.
- 3) **Shut down equipment or system** using normal stopping procedures.
- 4) **Dissipate or any restrain stored energy** using methods such as grounding, blocking, repositioning, bleeding down, etc. Compressed air, hydraulic or steam lines must be bled, drained, and cleaned out. The isolation valves must be locked out and tagged. Any mechanical component that could roll, shift or move, such as springs, counterweights, wheels, fan blades, etc. must be chained, barred or blocked.

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- 5) **Place LOTO devices.** Lockout devices shall be affixed to each energy-isolating means by authorized individuals. Attach an approved tag containing the name, date/time and contact information for the person performing the lockout/tagout.

B. Verification

After ensuring all personnel are clear, verify that the equipment or system is isolated by attempting to energize it. Make sure all controls are returned to the off or neutral position. Do not repeat verification of LOTO while service and maintenance is being performed. For procedures involving one person, the procedure can be verified by the person locking and tagging out the equipment or system. Group LOTO procedures must have an assigned Primary Authorized Person to verify the procedure.

Acceptable verification methods include:

- 1) **Equipment with hand/off/auto and on/off disconnect combination.** Switch the HOA to “off” and the on/off disconnect to “off”. Lockout and tagout the disconnect and attempt to restart the equipment by switching the on/off switch to “on”. Verification is successful if the equipment does not start.
- 2) **Equipment with local start/stop switch and on/off disconnect combination.** Turn the equipment off by selecting “stop” on the start/stop switch and “off” on the disconnect. Lockout and tagout the power, disconnect and attempt to restart the equipment by selecting “start”. Verification is successful if the equipment does not start.
- 3) **Equipment with an on/off disconnect only.** Switch the disconnect to “off”. If the equipment is observed to be de-energized, wait 10 seconds and reactivate the disconnect. If the equipment is reenergized, switch the disconnect to “off” and perform LOTO. The final step is to witness that the equipment is de-energized. These steps also work for remotely controlled equipment because the steps demonstrate that local control is achievable.
- 4) **Alternate verification.** If the steps outlined above are not possible, then an alternate verification method should be determined on a case-by-case basis and may require multiple steps including voltage testing. These methods must be reviewed and approved by EHS.
1. **Voltage testing.** Required when working on or near de-energized electrical utilization systems. Until the absence of voltage is verified, opening an electrical panel for testing is considered working on or near exposed live parts. Therefore, voltage testing invokes the OSHA Electrical Standard 1910.333, *Selection and Use of Work Practices*, and the personal protective equipment (PPE) requirements of NFPA 70E, *Standard for Electrical Safety in the Workplace*. In addition, testing should only be performed by authorized and qualified employees as defined by OSHA and NFPA. Follow the steps below to verify the absence of voltage to establish an electrically safe work condition prior to working on or near de-energized electrical utilization systems:

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1. After placing the disconnecting device in the open position, if possible, visually verify that all switch blades are fully open or that circuit breakers are in the fully disconnected position. Arc flash rating clothing must be worn when opening the electrical panel door or cover to perform this step.
2. Obtain a test instrument that is adequately rated for the work environment (CAT III or CAT IV). The use of low voltage proximity or non-contact voltage detectors to verify the absence of voltage must be supplemented with a direct contact meter. Proximity or non-contact voltage detectors may provide false readings due to interferences that block the electric field. Interferences can occur if a cable is shielded or has a ground or neutral conductor inside or if the user is wearing voltage-rated gloves or standing on a fiberglass ladder.
3. While wearing the required PPE, use the voltage tester to test a similar known source to verify that the tester is operating properly.
4. Use the voltage tester to confirm that the equipment has zero voltage. A measurement must be made from each conductor to ground and between each conductor to each other conductor (phase-to-ground and phase-to-phase).
5. Again, use the voltage tester to test a similar known source to verify that the tester is operating properly.

C. Returning Equipment to Service

- Ensure all personnel and tools are removed and cleared from the work area
- Reinstall all guards
- Authorized employee(s) remove their lock(s) and tag from all energy isolation devices
- Notify all affected employees that lockout devices have been removed, and that the system or equipment will be restarted
- Return the equipment or system back to normal service

D. Maintaining LOTO Continuity

If a system or piece of equipment will be left unattended, in an inoperable condition at the end of a shift, or if an oncoming shift will be continuing work on the system, a supervisor or primary authorized person should facilitate lockout/tagout continuity following one of these methods:

1. If there is no break between work shifts - replace the departing shift employee's lock and tag with their lock and tag on the system until work continues.

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2. OR
3. Authorized Employee(s) from the oncoming shift will place locks and tags on the system or equipment before the departing shift removes their personal locks and tags. This method is preferred, if feasible.

“Shop locks” or equipment locks with multiple keys may not be used to maintain lockout/tagout continuity.

IX. Group Lockout/Tagout

Group LOTO applies to servicing or maintenance activities when more than one employee is engaged in the operation. When servicing and maintenance is performed by a crew, craft, department or other group, a procedure must be utilized that affords each employee a level of protection equivalent to that provided by the implementation of a personal lockout or tagout device. This shall be accomplished by:

1. Designating a Primary Authorized person who has knowledge of the equipment to perform lockout/tagout on the equipment for the whole crew. It shall be the responsibility of the Primary Authorized Person to carry out all steps of the LOTO procedure and inform the crew when completed. This individual will attach his LOTO device to a multi-lock accepting device.
 - a) When a shutdown includes work performed by non-NCCU personnel, the crew must include a supervisor from each employer.
2. Then, each affected employee shall affix a personal LOTO device to the multi-lock accepting device when they begin work, and shall remove those devices when they stop working on the machine or equipment being serviced or maintained. Each employee must verify that all required equipment has been locked out. Each employee must apply his own personal LOTO device.
3. When all service or maintenance has been completed, the Primary Authorized individual shall remove their LOTO device and the multi-lock accepting device after all other affected employees remove their locks. Only the employee who attached the LOTO device may remove the device unless the conditions outlined in the “LOTO removal when individual is not available” section have been met.
4. If multiple pieces of equipment are being locked out, multiple LOTO devices may be used to lockout the machine or equipment with the keys being placed in a lockout box or cabinet that allows the use of multiple locks to secure it. Each individual will then use their own LOTO device



Multi-lock accepting device

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to secure the box or cabinet. As each person no longer needs to maintain his lockout protection, that person will remove their LOTO device from the box or cabinet.

X. Exceptions to LOTO Requirements

A. Corded and Plug Connected Equipment

Making corded and plugged equipment safe for servicing and maintenance can be done in one of the following ways:

- Authorized employee must have exclusive control of the plug when disconnected from the energy source. This is often called the “cord in hand method” and is acceptable only if any stored energy in the equipment cannot be reasonably expected to be dissipated through the plug.
- A lockout device can be used to prevent someone from connecting the plug to a power source.

B. Hot Tap Operations

Work on energized systems must not be done unless it is impossible to de-energize a system because it is not feasible or the service is essential. Examples are typically limited to life support systems and fire protection systems in certain circumstances.

C. Unusual Instances Requiring Lock Removal

Under normal circumstances, the person who placed the lock is the person to remove their lock. Occasionally, this is not possible. Removal of another person’s lock must follow the process of placing equipment or systems back into normal service. Departments are responsible for documenting a process for removing a lock when the lock’s owner is not able to do so. A [Lock Removal Form](#) (Appendix D) should be used when a lock is removed in these situations.

XI. Program Review

The EHS Director or authorized EHS employee shall conduct an annual review of the NCCU LOTO program to ensure that the document and requirements of this relevant standards are being met.

XII. Complaint Response

Occasionally employees raise concerns about the potential for exposure to hazardous energy during the

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Lockout/Tagout Program

Version #1.0

servicing and/or maintenance of equipment or machines. Employees are encouraged to call EHS at 919-530-7125 or email ehs@nccu.edu with any concerns about their work areas. The investigation of these concerns is confidential and may be anonymous, if the employee wishes. The investigation includes an inspection of their work areas and an evaluation of their potential exposure.

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XIII. Appendix A Procedure Development Form

LOCKOUT TAGOUT PROCEDURE

INSTRUCTIONS

- Complete each section of the form. Where a step or section does not apply, write n/a.
- Return completed forms to supervisor or manager for review and approval.
- Ensure completed procedures are readily accessible on or near the equipment
- Review the procedure at least once per year by completing the Periodic Inspection Certification Form.

GENERAL INFORMATION			
DEPARTMENT / SHOP:			
EQUIPMENT / SYSTEM NAME:			
LOCATION OF EQUIPMENT (BUILDING, ROOM, ETC.):			
REASON FOR EQUIPMENT / SYSTEM ISOLATION:			
AUTHORIZED PERSONNEL		AFFECTED PERSONNEL	
HAZARD ASSESSMENT (CHECK ALL THAT APPLY)			
<input type="checkbox"/> Electrical		<input type="checkbox"/> Thermal (cryogenic)	
<input type="checkbox"/> Chemical		<input type="checkbox"/> Radiation, ionizing	
<input type="checkbox"/> Pressure (hydraulic, pneumatic)		<input type="checkbox"/> Radiation, non-ionizing	
<input type="checkbox"/> Mechanical		<input type="checkbox"/> Stored energy	
<input type="checkbox"/> Thermal (heat)		<input type="checkbox"/> Other:	
LOCKOUT TAGOUT SEQUENCE			
Step 1 – NOTIFY AFFECTED EMPLOYEES THAT SERVICING WILL TAKE PLACE UNDER LOCKOUT TAGOUT.			
Step 2 – SHUT DOWN (I.E. TURN OFF) THE EQUIPMENT OR SYSTEM FOLLOWING THE NORMAL STOPPING OR SHUTDOWN PROCEDURES.			
Step 3 – FOLLOW THE STEPS BELOW TO PROPERLY ISOLATE EACH ENERGY SOURCE, APPLY LOCKOUT TAGOUT AND VERIFY THAT THE EQUIPMENT IS IN A ZERO ENERGY STATE:			
HAZARD	MAGNITUDE	METHOD OF ISOLATING	VERIFICATION CHECK
<input type="checkbox"/> ADDENDUM – PROCEDURE STEPS CONTINUED ON SEPARATE PAGE.			
Step 4 – RELEASE / CONTROL STORED ENERGY (LIST):			

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LOCKOUT TAGOUT PROCEDURE

STEP 5 – ATTEMPT TO RESTART EQUIPMENT; VERIFY THAT EQUIPMENT WILL NOT START. RETURN OPERATING CONTROL(S) TO NEUTRAL OR "OFF" POSITION AFTER VERIFYING THE ISOLATION OF THE EQUIPMENT.		
RETURN EQUIPMENT TO SERVICE		
Step 1 – Check the 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.		
Step 2 – Check the work area to ensure that all employees have been safely positioned or removed from the area.		
Step 3 – Verify that the controls are in neutral or "off" position.		
Step 4 – Remove the lockout devices and reenergize the machine or equipment.		
Step 5 – Notify the affected employees that the servicing or maintenance is completed, and the machine or equipment is ready for use.		
DOCUMENT REVIEW AND APPROVAL		
AUTHORIZED EMPLOYEE COMPLETING FORM / PROCEDURE	DATE COMPLETED	
SUPERVISOR REVIEWING PROCEDURE	DATE APPROVED	NEXT REVIEW DUE

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XIV. Appendix B Periodic Inspection Certification

SECTION 1. GENERAL INFORMATION		
Date:	Inspector(s): Click or tap here to enter text.	
Authorized Employee(s): Click or tap here to enter text.		
Affected or Other Employee(s): Click or tap here to enter text.		
Specific Equipment and location where LOTO procedure is used: Click or tap here to enter text.		
Is the inspector and Authorized Employee <input type="checkbox"/> Yes <input type="checkbox"/> No (Employees conducting LOTO may not inspect their own procedures)		
SECTION 2: LOCKOUT/TAGOUT PROCEDURE		
Are there written LOTO procedures for the equipment present at the work site?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were all "affected" and "other" employees verbally notified of the lockout?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were all energy sources turned to the "Off" and "Safe" position?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were lockout devices and locks properly attached to each energy isolation device?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were warning tags indicating the authorized employee's name and the date attached to each energy isolation device?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Was all stored energy properly controlled (pneumatic/hydraulic energy bled, suspended parts lowered, etc.)?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Was an attempt made to restart the equipment or otherwise ensure the effectiveness of the lockout prior to beginning the service work?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
If a group lockout was required, did all authorized employees attach their own locks and tags to each energy isolation device?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were all locks and devices properly removed after servicing?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Were all affected and other employees verbally notified when the lockout was complete?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Section 3. Inspection Results and Signatures		
FULLY explain all "No" responses and note any other deficiencies that are not specifically covered by a checklist item: Click or tap here to enter text.		
Authorized Employee Name: Click or tap here to enter text.		
Signature Click or tap here to enter text.	Date: Click or tap to enter a date.	
Inspector Name:		
Signature: Click or tap here to enter text.	Date: Click or tap to enter a date.	

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XV. Appendix C Tagout Justification Form

Tagout alone (i.e. without lockout) is only permitted when an energy-isolating device is not capable of being locked.

A Supervisor must provide WRITTEN approval of the use of tagout alone.

Location and name of equipment that will be tagged out only: *Click or tap here to enter text.*

A. **Full Employee Protection.** Check all items that apply to the tagout. If the tagout does not meet all of the criteria, the tagout system may NOT be used:

- Tagout system provides full employee protection
- Tagout devices placed at the same location where the lockout device would have been placed
- Tagout system with additional safety measures provides safety equivalent to LOTO
- Employees can fully comply with all tagout-related procedures

B. **Additional Safety Measures.** Check the measure(s) used to provide equivalent protection and/or state any other alternative used.

- Isolating circuit element removal (e.g. fuse)
- Control switches blocked
- Extra disconnecting device opened (e.g. disconnecting switch; circuit breaker)
- Removal of valve handlers
- Alternative measure(s): *Click or tap here to enter text.*

C. **Tagout Devices.** Check the tagout device against each criterion listed below. The tagout device should satisfy each criterion.

- Singularly identified
- Device used only for controlling energy
- Durable and substantial
- Attachment means is non-reusable
- Attachable by hand
- Self-locking
- Indicates employee identity

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- Standardized as to: color, shape, size print and format
- Minimum unlocking strength of no less than 50 pounds
- Includes warning such as “Do not Start (Open, Close, Energize, Operate, etc.)”

D. Training. Be certain that the employees have been trained in the following:

- Tags are simply warning devices
- Tags do not provide physical restraint
- Tags must never be removed without authorization
- Tags must be securely attached
- Tags must never be ignored or bypassed

State the reasons for using the tagout system: Click or tap here to enter text.

Name of Supervisor authorizing use of the tagout system: Click or tap here to enter text.

Signature: Click or tap here to enter text.

Date of authorization: Click or tap to enter a date.

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XVI. Appendix D Lock Removal Form

When an authorized employee who applied a lock or tag device is not available to remove the lock or tag, then this lock removal procedure shall be used. The supervisor or manager will apply the following procedure:

1. Verify that the authorized employee who applied the device is not on campus;
2. Make all reasonable efforts to contact the authorized employee to inform them that their lockout or tag out device has been removed; Call home, cell phone, leave message.
3. Ensure that the authorized employee has this knowledge before they resume work. This can be accomplished by meeting with the employee prior to that employee beginning work activities upon their earliest return to work. A note attached to their time card is also warranted as an additional safety precaution; telephone or personal contact.
4. Complete this form and submit to EHS upon completion.

Owner of lock: Click or tap here to enter text.

Person attempting to contact owner: Click or tap here to enter text.

Equipment locked out: Click or tap here to enter text.

Date of removal: Click or tap to enter a date. Time: Click or tap here to enter text.

Steps taken to contact owner: Click or tap here to enter text.

Reason for removing lock/tag: Click or tap here to enter text.

Signature of person removing lock:

SUBMIT COMPLETED FORM TO EHS@NCCU.EDU
KEEP COPY IN DEPARTMENTAL RECORDS

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