Lockout/Tagout Plan

Office of Public Safety

December 2024

Record of Changes and Distribution

This plan will be reviewed annually to reflect changes in the Lockout/Tagout Plan, Blue Ridge Community College (BRCC) policies, and government regulations under the governance of the Financial and Administrative Services Committee.

Recommended changes to this document will be submitted to the Vice President of Finance and Administration for review and final approval.

This plan will be distributed electronically to all laboratory personnel and will be available to all BRCC faculty, staff, and students on the BRCC website.

Table of Contents

I. INTRODUCTION

1. Purpose

The Blue Ridge Community College *Lockout/Tagout Plan*, in accordance with U.S. Code of Federal Regulations Section 29 1910.147 and Virginia Occupational Safety and Health Program Directive 02-211A, establishes the mechanisms, methods, and administrative controls that BRCC employees must use to eliminate the accidental release of hazardous energy whenever service or repairs are performed on energized equipment.

This document defines the structure of BRCC's Lockout/Tagout Program and describes specific procedures and activities designed to satisfy federal and Commonwealth of Virginia safety requirements and protect employees from injury. The components and information required by Occupational Safety and Health Administration lockout/tagout standards and additional Virginia Occupational Safety and Health lockout/tagout regulations are contained within this document and include a written plan, control procedures, periodic inspections, and training.

The lockout/tagout procedures outlined in this document are designed to prevent a hazardous release of energy during service, maintenance, and/or modification of equipment and fixtures that contain, or have the potential to contain, hazardous energy such as electrical, hydraulic, pneumatic, thermal, chemical, moving parts, and any other form of energy that presents a physical hazard. The control of hazardous energy will be accomplished by locking and/or tagging energy isolation devices that prevent the release of energy prior to service or repair.

2. Scope

This plan applies to all BRCC employees and contractors working on Blue Ridge Community College property and leased spaces. This Plan describes required training programs, lockout/tagout procedures, and inspection protocols that must be followed when working with energized equipment and when:

- An employee is required to remove or bypass a guard or other safety device to service or repair a piece of equipment; or
- An employee is required to place any part of his or her body into an area or piece of equipment where work is performed upon the material being processed (point of operation); or
- An employee is working in an area deemed at-risk (danger zone) during a machine operation cycle.

3. Lockout/Tagout Program

BRCC provides access to the College's *Lockout/Tagout Plan* to all Authorized Employees, Affected Employees, supervisors, and contractors. This *Lockout/Tagout Plan* includes roles and responsibilities for College personnel, instructions on lockout/tagout procedures, training requirements, and recordkeeping procedures.

4. Training and Authorization

The level of lockout/tagout training provided to employees is based on their level of involvement with energized equipment and lockout/tagout procedures.

- **Affected Employees**: Affected Employees are employees who are required to operate or use equipment on which servicing or maintenance is being performed under lockout or tagout procedures, or whose job requires work in an area in which such servicing or maintenance is being performed. All Affected Employees will receive training in the purpose and use of energy control procedures and the prohibitions against attempts to restart or reenergize machines or equipment which are locked out and/or tagged out.
- **Authorized Employees**: Each Authorized Employee will receive formal training upon initial assignment to a position that requires the use of lockout/tagout procedures. Training must include the elements listed below.
    - Recognition of hazardous energy sources.
    - The type and magnitude of hazardous energy sources within the work area.
    - Care, use, design, and application of lockout devices.
    - Applicability, completion, and limitations of tagout devices
    - Methods, means, and lockout/tagout procedures for energy isolation and control.
- **Equipment Specific Training:** Supervisors must review equipment-specific lockout/tagout procedures with each employee prior to beginning work on equipment unfamiliar to the employee(s). This may be accomplished by reviewing the *Lockout/Tagout Equipment Specific Procedures Form* (Appendix A) on site with the employee(s) prior to beginning a lockout/tagout project. Supervisors must maintain a list of the Authorized Employees under their supervision and a corresponding list of equipment on which they have been trained. The *Lockout/Tagout Equipment Specific Procedures Form* provides a location to document Authorized Employees for specific equipment.
- **Retraining:** Retraining will be provided for all Affected and Authorized Employees whenever there is a relevant change in job assignment, a change in machines, equipment or process that presents a new hazard, or when there is a change in energy control procedures. Retraining must establish employee proficiency and introduce new or revised control methods and procedures as necessary. Additional retraining must be conducted whenever a periodic inspection or work activities reveal deviations or inadequacies in the knowledge or use of energy control procedures.

5. Employee rights

The Occupational Safety and Health Act of 1970 provides rights to employees that offer protection from hazards in the workplace. For more information visit osha.gov/workers.

6. Reporting

Incidents, Accidents, or Occurrences resulting in personal injury and/or illness, disruption of normal activities or business interruption shall be reported as follows;

- Any serious injury, illness or fatality shall be reported to the Emergency Preparedness and Safety Manager at the VCCS System Office immediately.
- Employees: Incidents or accidents that involve employees shall be reported to Human Resources, Public Safety and any other appropriate college officials. Fatalities, in-patient hospitalizations, amputations, or loss of an eye must be reported to VOSH, per 29 CFR 1904.39.
- Students: Incidents or accidents that involve students shall be reported to the Dean of Students (or appropriate Vice President), Public Safety and any other appropriate college officials.

- Non-Employees/Non-Students: Incidents or accidents that involve non-employees or non-students shall be reported to Public Safety and appropriate college officials.

7. Regulatory Agencies

The following agencies regulate laboratory activities and provide guidance and direction concerning proper lockout/tagout procedures.

- **The Occupational Safety and Health Administration (OSHA)** develops and enforces regulations based on federal statutes. (www.osha.gov)
- **Virginia Occupational Safety and Health (VOSH)** is the Commonwealth's counterpart to the federal Occupational Safety and Health Administration (OSHA). The VOSH Program is responsible for enforcing occupational safety and health laws and regulations in the private and public sectors https://www.doli.virginia.gov/vosh-programs/

II. ROLES AND RESPONSIBILITIES

It is the responsibility of all employees, affiliates, students, and visitors to conduct work and activities in a manner that will not adversely impact themselves, other personnel, Blue Ridge Community College property, the surrounding community, or the environment. The implementation of a comprehensive Lockout/Tagout program relies on the complete support and cooperation of various college entities.

- **Vice President of Finance and Administration (VPFA):** The office of the VPFA is responsible for the development and administration of the *Lockout/Tagout Plan.*
- **Deans, Directors, or Supervisors:** Each Dean, Director, or Supervisor has the responsibility for ensuring that BRCC's *Lockout/Tagout Plan* is implemented and followed by employees under their supervision.
- **Human Resources Department:** As it relates to Worker's Compensation, the Human Resources Department is responsible for maintaining and updating the sharps injury log, maintaining records regarding exposure incidents, providing worker's compensation medical providers with appropriate documentation, arranging for post exposure care as needed, and notifying the Director of Public Safety when an incident has occurred.
- **Personnel**
  - ***Affected Employees****:* are those employees who participate in activities that may be restricted, interrupted, or otherwise affected by lockout/tagout procedures.
  - ***Authorized Employees:*** are those employees who lock out and/or tag out machines or equipment in order to perform servicing or maintenance. Authorized Employees must follow BRCC's *Lockout/Tagout Plan.*
- **Contract Administrators:** Contract Administrators are responsible for ensuring that contractors adhere to lockout/tagout regulations while working on BRCC property.
- **Contractors:** Contractors are responsible for ensuring that contract personnel understand and comply with the requirements of Occupational Safety and Health Administration standard 29 Code of Federal Regulations 1910.147. Whenever contract personnel are engaged in activities covered by lockout/tagout regulations, the Contract Administrator and the contract employer shall inform one another of their respective lockout/tagout procedures. The exchange of lockout/tagout procedures between BRCC and the contract employer must take place before beginning any service activities subject to lockout/tagout.

III. LOCKOUT/TAGOUT EQUIPMENT

Depending upon the number and design of energy isolation devices that must be controlled during service or repair, either a lockout or tagout device or a combination of both will be required to effectively prevent an accidental release of energy. Lockout/tagout devices must be used in accordance with the lockout/tagout procedures specified in this document and recorded on the *Lockout/Tagout Equipment Specific Procedures Form* (Appendix A).

Each Authorized Employee will receive or check out lockout/tagout equipment capable of satisfying the requirements of this *Lockout/Tagout Plan* and appropriate for their work activities. Each employee will be issued at a minimum the following standardized equipment:

- Two standardized locks capable of withstanding removal without the use of excessive force and one unique key per lock.
- One set of standardized self-locking, non-releasable, durable weather resistant tagout devices with an unlocking strength of no less than 50 pounds.
- Other equipment may be issued such as: tool boxes, bags, hasps, lockout/tagout stations, or equipment specific devices.

1. Locks

Before servicing equipment, a lock out/tagout device must be affixed to each energy isolation device that is capable of being locked out. Lockout in combination with tagout is the preferred method of energy isolation at BRCC. Lockout devices must remain in place throughout the servicing/maintenance of the equipment and may only be removed when service is completed by the Authorized Employee who affixed the lock and/or tag.

Supervisors are responsible for ensuring that an adequate supply of lockout and tagout devices are available to Authorized Employees.

- All locks shall be individually numbered and keyed. If duplicate keys exist for the same lock, an effective system must be established for management of the keys.
- Locks and keys are for the exclusive use of the holder and may not be loaned to other employees for any reason.
- Locks may not be used for any purpose other than lockout/tagout projects.
- Locks may not be removed by any alternative means other than employee or supervisor keys or following proper procedures.

2. Tags

If an energy isolation device will not accept a lock, a tagout device must be securely attached to each isolation point of the device. Tagout devices are to be treated with the same regard as locks. They may never be bypassed and may only be removed by the Authorized Employee who applied them. It must be documented on the *Lockout/Tagout Equipment Specific Procedures Form* why a lock cannot be used and how a tagout device is capable of providing the same level of protection as a lockout device. Tagout devices must be used in combination with lockout devices whenever possible. Tagout devices must remain in place throughout the service of the equipment and may only be removed when service is completed by the Authorized Employee who affixed the tag.

Supervisors are responsible for ensuring that an adequate supply of tagout devices are available to Authorized Employees. Tags are only warning devices affixed to energy-isolating devices and do

not provide the physical restraint that is provided by lockout. In addition:

- Tags are to be used in conjunction with all locks.
- Tags must be legible and understandable by all Authorized Employees and Affected Employees.
- All tags must indicate the user's name and date of application.
- Tags must be securely attached to energy isolating devices so that they cannot be inadvertently or accidentally detached during use and must be capable of withstanding the environmental conditions to which they are exposed.
- Tags must be standardized, self-locking, non-releasable, durable weather resistant tagout devices with an unlocking strength of no less than 50 pounds.
- Tags may only be removed by the employee who applied the tagout device.
- Tags may not be recycled or re-used.

3. Supplemental Lockout/Tagout Equipment

Supplemental lockout/tagout equipment that is used in conjunction with lockout/tagout devices include such items as multiple lockout hasps, valve enclosures, circuit breaker lockouts, chains, plug enclosures, and other devices of this nature. Supervisors are responsible for ensuring that an adequate supply of supplemental lockout/tagout equipment appropriate for the tasks encountered is made available to Authorized Employees. Supplemental lockout/tagout equipment is not a substitute for lockout/tagout devices and need not be specifically assigned to each Authorized Employee. This equipment may be shared so long as it is maintained and used correctly. Supplemental lockout/tagout equipment must always be secured while in use with a lockout and/or tagout device.

IV. GENERAL LOCKOUT/TAGOUT PROCEDURE

All projects that are subject to the *Lockout/Tagout Plan* will be documented using the BRCC *Lockout/Tagout Equipment Specific Procedures Form* provided in Appendix A. The following general steps will be taken by BRCC employees when locking and tagging out equipment:

- ***Notify Others:*** The Authorized Employee completing the servicing must verbally notify all Affected Employees of the impending equipment shutdown.
- ***Shutdown Equipment:*** If the equipment is running, it must be shutdown using the normal stopping procedures. (e.g., depress "stop" button, open toggle switch, etc.)
- ***Identify All Energy Sources:*** All electrical, hydraulic, pneumatic, and other energy sources feeding the equipment must be identified. Any questionable identification of energy sources should be clarified with the supervisor prior to beginning work.
- ***Isolate Equipment from Energy Sources:*** Once the equipment has been shut down, all energy isolation devices must be operated so that the equipment is disconnected from its energy sources. (e.g., turn electrical disconnects to "Off" or "Safe" position; open electrical circuit breakers; close hydraulic valves; close pneumatic valves, etc.)
- ***Lockout/tagout the Equipment:*** Locks, lockout, or tagout devices must be attached to each energy isolation device in order to prevent the transmission of energy. A tag indicating the lock holder and the date of application MUST accompany each lock. A tag should also be placed near the equipment's point of operation if it is located remotely from the energy isolation device(s).

- ***Release or Block Stored Energy:*** After the equipment has been isolated and locked/tagged out, all stored energy must be safely controlled. The appropriate bleeding or blocking methods must be used to dissipate stored energy sources (such as hydraulic pressure, pneumatic pressure, steam pressure, suspended parts, spring-driven parts, etc.).
- ***Verify Isolation of Equipment:*** Prior to beginning any service work, the Authorized Employee must attempt to restart the equipment using the normal starting procedure or otherwise ensure the effectiveness of the lockout. Operational controls must be returned to the "Off" position after a restart attempt has been completed.
- ***Perform Required Servicing:*** During the completion of service work, employees must avoid doing anything that could potentially reactivate the equipment.
- ***Remove LOTO Devices:*** Inform affected employees and follow proper startup procedures.

1. Group Lockout Procedures

When more than one Authorized Employee is servicing a single piece of equipment, each employee must have their own lockout/tagout device secured to each energy isolation device. This can be accomplished by utilizing a hasp designed to accept multiple locks. During group lockout, one group member shall be assigned responsibility for ensuring that all steps of the lockout/tagout procedure described above are followed. This person will be the Lockout/Tagout Project Supervisor. This person shall attach a hasp to each energy isolation device. All Authorized Employees involved in the servicing must then attach their own locks and tags to each hasp.

Employees shall remove their own locks and tags after they have completed their portion of the work. The Lockout/Tagout Project Supervisor shall always remove their locks and tags last. Once this has been done, the Lockout/Tagout Project Supervisor is then responsible for ensuring the equipment is energized.

2. Shift Change Coordination

Lockout/tagout protection must not be interrupted when servicing lasts longer than one shift. If the equipment is the sole responsibility of an Authorized Employees on a single shift, locks and tags shall be left in place until the servicing is complete. If it is necessary for servicing to continue into the next shift, the oncoming employee shall attach their lockout/tagout devices to each energy isolation device prior to the outgoing employee(s) removing their lockout/tagout device(s).
Alternative shift change procedures must be approved by the appropriate supervisor. Such procedures must ensure continuity of lockout/tagout protection for all employees.

3. Removing Lockout/Tagout devices

Before lockout or tagout devices are removed and energy is restored to the machine or equipment, an Authorized Employee must observe the following steps:

- Ensure that all tools, parts, equipment and non-essential work materials are removed.
- Ensure that the machine components are correctly replaced and intact.
- Check the work area to ensure that all employees have left the area and are in a safe position.
- Remove the lockout or tagout device. **Only the employee(s) who applied the lockout or tagout device may remove their lockout/tagout device when work is complete.**
- After lockout/tagout equipment is removed and before equipment is energized, notify all employees that the lockout/tagout devices have been removed.

- Energize equipment and proceed with testing.

The equipment must be de-energized and locked out or tagged out if further service or testing is required.

4. Absent Authorized Employee

If the employee that placed a lockout/tagout device is not present at the time the lockout/tagout devices are removed prior to energization, only their supervisor may remove the lock so long as the following steps are observed:

1. The supervisor must confirm that the employee is not at the facility. If the employee is on site only they may remove their lockout/tagout device. All work must wait until that employee arrives to remove their lockout/tagout device.
2. The supervisor must make contact with the employee before the employee's lockout/tagout device is removed, notify them that their device will be removed, and receive the employees oral or written consent. Employee consent must be documented on the *Lockout/Tagout Equipment Specific Procedures Form.*
3. The supervisor must visually inspect the work area to ensure that all employees have vacated the area and are in a safe location.
4. In a group lockout/tagout situation, all employees who applied a lockout/tagout device, besides the absent employee, must be present or otherwise accounted for when the absent employee's lockout/tagout device is removed by the supervisor.
5. In the event that the employee cannot be reached prior to removing their lockout/tagout device and a reasonable effort has been made the supervisor must ensure that the employee is notified **before** they resume work at the facility.

V. EQUIPMENT SPECIFIC LOCKOUT/TAGOUT PROCEDURES

Supervisors are responsible for completing a *Lockout/Tagout Equipment Specific Procedures Form* (Appendix A) for equipment serviced by their employees. Equipment-specific procedures shall identify the unique shut down procedures, energy sources, energy release and blocking precautions, and methods of isolation that an Authorized Employee must know to effectively control hazardous energy sources. The *Lockout/Tagout Equipment Specific Procedures Form* should be provided to employees prior to beginning a lockout/tagout project.

Lockout/Tagout Equipment Specific Procedures Form must be kept on file and made available to the appropriate Authorized Employees and provided to Occupational Safety upon request.
Where feasible, it is recommended that *Lockout/Tagout Equipment Specific Procedures Forms* be laminated and affixed to equipment.

If equipment-specific information is the same for various machines or equipment or if another means of logical grouping exists, then a single *Lockout/Tagout Equipment Specific Procedures Form* may be sufficient.

Equipment-specific procedures do not need to be documented for equipment that meets <u>all</u> of the following conditions:

6. The equipment has no potential for stored or residual energy or re-accumulation of stored energy after shut down which could endanger employees

7. The equipment has a single energy source which can be readily identified and isolated
8. The isolation and lockout of the energy source will completely de-energize and deactivate the equipment
9. The equipment is isolated from the energy source and locked out during service or maintenance
10. A single lockout device will achieve a lockout condition
11. The lockout devices is under the exclusive control of the employee working on the equipment
12. Service and/or maintenance does not create hazards for other employees
13. The employer has not had any accidents involving the unexpected re-energization or reactivation of equipment during servicing while using this exception.

VI. ASSESSMENT OF EMPLOYEE PROFICIENCY

In accordance with OSHA LOTO regulations, supervisors are responsible for conducting annual assessments of authorized employees to ensure compliance and proficiency with LOTO standards. Supervisors must document this assessment using the *Annual Employee LOTO Proficiency Assessment Form* (Appendix B). Supervisors must observe employees conducting LOTO procedures in accordance with the BRCC's Lockout Tagout Plan, and the *LOTO Equipment Specific Procedure Form* and include an assessment of the following:

- How to perform a shutdown.
- How to isolate equipment.
- How to apply and remove LOTO devices.
- How to safely release stored energy to ensure a zero-energy state exists.

Employees must attend LOTO Training if they are unable to safely or correctly perform LOTO procedures.

VII. RECORD KEEPING

- Supervisors are responsible for maintaining the Lockout/Tagout Equipment Specific Procedures form.
- Human Resources is responsible for maintaining records of all lockout/tagout training.

VIII. PROGRAM EXCLUSIONS

Normal production operations are not covered by this plan if they are routine, repetitive, and integral to the use of the equipment for production purposes provided that the work is performed using alternative measures that provide effective protection. Examples of alternative measures that might offer effective protection would include light curtains, sensing devices, safety interlocks, or the use of extension tools. Normal production operations are covered by this program if one of the following conditions exists:

- Work on cord and plug-connected equipment is not covered by this policy if unplugging the equipment controls all energy and the plug remains under the continuous control of the employee performing the service work.

Hot tap operations involving transmission and distribution systems are not covered by this policy if the supervisor of the work demonstrates that (1) continuity of service is essential, (2) shutdown of the system is impractical, and (3) documented procedures offering effective protection are followed.

Appendix A: Lockout/Tagout Equipment Specific Procedures Form

Date Completed:	Location:
Equipment:	
Manufacturer:	Model:
Description of Work:	
Completed By:	

Section 1: List the personnel who must be notified prior to equipment shutdown.

	Personnel	Department
1.		
2.		
3.		
4.		
5.		

Section 2: Shutdown Equipment (Record the shutdown of equipment using normal stopping procedures)

	Location of Controls	Action
1.		
2.		
3.		

Section 3: Identify and Isolate All Energy Sources (List the locations of all energy types and isolation devices)

Energy Source				
	Isolation Devices	Energy Types	Isolation Locations	Notes
1.				
2.				
3.				
4.				
5.				
6.				
7.				
8.				
9.				
10.				

Section 4: Release or Block Stored Energy (List any stored energy and how it is safely controlled)

Energy Source			
	Name/Location	Released	Blocked

1.		☐ Yes ☐ No	☐ Yes ☐ No
2.		☐ Yes ☐ No	☐ Yes ☐ No
3.		☐ Yes ☐ No	☐ Yes ☐ No
4.		☐ Yes ☐ No	☐ Yes ☐ No

Section 5: Verify Isolation of Equipment (List the equipment that was attempted to be restarted prior to beginning work. Operational controls must be returned to the "Off" position after a restart attempt has been completed.)

Equipment		
	Name	Verification
1.		☐ Yes ☐ No
2.		☐ Yes ☐ No

Section 6: Unique Hazards (list any hazards that cannot be controlled by LOTO)

	Hazard	Method of Control
1.		
2.		
3.		

Section 7: Pictures of Stepwise Sequence of Lockout/Tagout Operations (Provide pictures for lockout/tagout procedures if necessary)

Appendix B: Annual Employee LOTO Proficiency Assessment Form

Date:	
Authorized Employee:	Supervisor:
Description of Work:	

Section 1: Training

Employee has received lockout/tagout training	☐ Yes ☐ No

Section 2: Procedure

Employee understands lockout/tagout procedures using the elements of the BRCC LOTO Plan	☐ Yes ☐ No
Employee understands the need to verbally notify all affected employees to include contract employees	☐ Yes ☐ No
Employee understands how to correctly shut down equipment	☐ Yes ☐ No
Employee understands how to identify and isolate all energy sources	☐ Yes ☐ No
Employee can attach lockout/tagout devices correctly	☐ Yes ☐ No
When group lockout/tagout procedures are required, the employee correctly uses group lockout/tagout devices such as a hasp capable of accepting multiple lockout devices	☐ Yes ☐ No
Employee utilizes both lockout and tagout devices when possible	☐ Yes ☐ No
Employee understands the effective release of blocked or stored energy	☐ Yes ☐ No
Employee attempts to restart or operate the equipment prior to beginning	☐ Yes ☐ No
Employee identifies unique hazards	☐ Yes ☐ No
Employee follows the appropriate lockout/tagout device removal and start up procedures	☐ Yes ☐ No

Section 3: Equipment

Employee has access to standardized lockout devices that are consistent with all other BRCC lockout devices in shape, color, or size.	☐ Yes ☐ No
Employee possesses the sole key used to operate lockout devices	☐ Yes ☐ No
Employee's lockout device(s) is(are) in good condition and operate correctly	☐ Yes ☐ No
Employee possesses standardized tagout devices that are uniform with print and format identical to all other tagout devices used at BRCC.	☐ Yes ☐ No
Employee is provided with an adequate amount of lockout and tagout devices	☐ Yes ☐ No

Section 4: Conclusion

Employee demonstrates a proficient knowledge of lockout/tagout procedures and policy	☐ Yes ☐ No
Employee requires retraining or additional equipment-specific training	☐ Yes ☐ No
Employee requires new or additional lockout/tagout devices	☐ Yes ☐ No

Section 5: Comments

Employer Signature: **Date:**

Evaluator Signature: **Date:**