ENVIRONMENTAL HEALTH AND SAFETY
University of Nebraska-Lincoln

Safe Operating Procedure

(Revised 5/24)

SECURITY ADVICE FOR BIOLOGICAL RESEARCH FACILITIES

References

This SOP is derived from the following documents and guidelines:

- **UNL Biosafety Guidelines**
- **Biosafety in Microbiological and Biomedical Laboratories** Center for Disease Control and Prevention, National Institutes of Health.

Introduction

Research security is an integral part of an effective biosafety program. Bio-security goals include the following:

- Prevent loss, damage, or contamination of valuable teaching and research materials and/or related sensitive information.
- Prevent release of potentially harmful organisms into the environment.
- Prevent accidental exposure to faculty, staff, students, and visitors; and
- Reduce the risk of theft of biohazardous material for malevolent purposes.

Where applicable and possible, security measures should also be followed during analogous field research projects.

When a biosecurity plan is implemented, it should be reviewed on a regular basis for effectiveness and should reference relevant UNL policies and plans.

Scope

Security policies, practices, and procedures in this SOP apply to all UNL research facilities engaged in work that is subject to the UNL Biosafety Guidelines. Security related to BSL-3 laboratories is beyond the scope of this document.

General Security Measures

Employees, as day-to-day occupants of research spaces, provide the first line of laboratory security.

- Laboratory access should be restricted to those with a need; the PI is responsible for determining who will be granted access rights. Key card access (when available) can be a valuable tool to help ensure proper access privileges.
- Keep laboratory doors closed as much as possible to discourage individuals from entering unnecessarily. Lock the doors when the room is unoccupied.
- Contact Building Systems Maintenance (BSM) promptly to remedy compromised security features, such as broken locks and arrange for alternate security measures until repairs are complete.
- Keep stocks of samples and microorganisms locked during off hours and when not attended to by laboratory personnel. Freezers and refrigerators in corridors and shared spaces are particularly susceptible to access, so they should be locked at all times.
- Do not leave keys or access cards in open or accessible areas. Do not disclose access codes or loan keys to other personnel. Limit the number of persons with access rights to the minimum required to conduct the work in an efficient manner.
- Unauthorized personnel should be asked to leave the research area. If you do not feel comfortable with someone's presence, be prepared to take appropriate action. Your approach should be to:
    a) Ask them if they need assistance.
    b) Politely ask them to leave the area.
    c) Ask them to follow you to the department office to seek information (but do not leave the area unsecured while you serve as the escort).
    d) If necessary, call the UNL Police for assistance.

All such occurrences should be reported to the UNL Police Department.

- Labs should discuss how to handle strangers before an incident happens so that a staff person's response is proper and effective. The UNL Police can provide training and additional information upon request.
- Know the facility schedule for locking doors, gates, or other access points. If unauthorized people are present in the area after it has been secured, call the UNL Police.
- Visually inspect all packages of biohazardous materials arriving at the work area and open them within a certified biological safety cabinet. If stains are present on the package, the package is unexpected, or the package is damaged, isolate and secure the package, do not open it, and call the UNL Biosafety Officer or EHS. Packages

shipped out using a commercial vendor (FedEx, etc.) must be prepared in accordance with applicable DOT/IATA regulations and offered for shipment only by personnel who have completed shipping training within the past three years (Designated Shippers).

- PIs who maintain stocks or collections of human, animal, or plant pathogens are required to prepare and maintain a Pathogen Inventory (please see the EHS SOP, ***Pathogen Inventories*** for additional information). Report any losses to the UNL Police and the Biosafety Officer/EHS. Promptly decontaminate and discard unnecessary stocks and notify EHS of abandoned stocks of biohazardous materials.
- Biohazardous waste items must be properly decontaminated before disposal. This is easily accomplished by autoclaving. Also, ensure that autoclave areas are monitored. Please reference the EHS SOPs, ***Autoclave Operation and Use***, ***Autoclave Performance Testing,*** and ***Disposing of Biohazardous Materials including Recombinant Nucleic Acids***.
- At the end of every work session, ensure that all biological materials have been properly stored and secured. Ensure all access doors are locked

Cybersecurity Measures

In addition to physical security measures, cybersecurity is just as important to guard against information being accessed by unauthorized individuals.

- Ensure computer passwords are strong, containing at least 8 characters, and at least one of the following: uppercase letter, lowercase letter, number, and symbols.
- Do not post computer passwords in the lab or office areas.
- Do not open emails from unknown sources on lab computers.
- Change computer passwords to common lab computers when staff changes occur.
- Adhere to UNL's Information Technology policies and procedures.

Threat Awareness

The following tips are intended to help you identify security threats from unusual sources.

- **Insider Threats** – Following are examples of suspicious behavior that should be reported.
    - Sudden changes in work habits/hours
    - Secretiveness
    - Suspected substance abuse
    - Conflicts with coworkers
- **Outsider Threats** – Following are examples of suspicious behaviors that should be reported.
    - Asking detailed questions about your place of work

- Asking detailed questions about your research
- Lurking outside building entrances
- Unusual cars parked in parking lot overnight
- Persons taking pictures outside your place of work.

Any suspicious activities should be reported to your supervisor and UNLPD (402.472.2222). The online UNL Reporting tool can be used as well: https://unlreport.unl.edu/

Additional Considerations

Additional security measures may also be appropriate based on research or organism specific considerations. The applicability and appropriateness of additional security measures should be determined by the Principal Investigator using a risk assessment approach. Regulatory agencies such as USDA-APHIS and HHS/CDC may also recommend or require security enhancements to limit access to materials and agents that require special permits to possess.

In addition, the 6th Ed. of the BMBL describes a risk assessment approach that considers the biological agents in possession relative to potential for misuse and potential consequences; insider and outsider threats, motivation, and opportunity; robustness of existing security measures; and the need for enhanced measures.

BSL 3/ABSL-3 Security Measures

Each BSL-3 containment facility must have an individual security plan, and the plan must be based on a security and vulnerability assessment. The plan must be developed with input from the PI, EHS, administrative officials, and UNLPD, at a minimum. When work with select agents is anticipated, the plan must also conform to all applicable regulatory requirements, including periodic drills.

If Security Is Compromised

If you believe the security of your lab or facility has been compromised, contact your supervisor immediately. Together you should contact UNLPD, and the Biosafety Officer and they can assist you with filing a report and putting temporary security measures in place until the security breach is located and fixed.