



Laboratory Closeouts

Reference Guide

Version 1. 12/11/2023

PURPOSE:

This EH&S Safety Guideline outlines the process by which laboratories and research support spaces (e.g. cold rooms, shared research space, greenhouses/growth chambers, etc.) are decommissioned prior to being closed, relocated, renovated, or vacated. This process ensures that hazards are appropriately mitigated in the decommissioned environments.

RESPONSIBILITIES:

Principal Investigators (PIs)/Area Supervisors

- Notify EH&S prior to closing, vacating, relocating, or renovating a laboratory or research support space. A minimum thirty (30) days advance notice is requested.
- Ensure employees conducting the closeout are instructed on hazards, follow proper procedures, and utilize protective equipment provided during their work as detailed in EH&S safety plans/manuals, institutional protocols, and lab-specific SOPs.
- Ensure chemicals are handled safely in accordance with the [Chemical Hygiene Plan](#) and the [Hazardous Waste Guidance Manual](#).
- Terminate or update any applicable institutional protocols (i.e. IACUC, IBC, and IRB), permits, or licenses.
- Ensure any potentially contaminated surfaces or equipment are appropriately decontaminated.
- Ensure all chemical, biological and radiological materials and/or hazards are appropriately removed.
- If contamination or hazards are identified by EH&S personnel upon lab close out, the PI/Lab Director will be responsible for ensuring the hazards are addressed.

Deans, Department Heads, Directors, and Unit Managers

- In the absence of the PI/Area Supervisor, notify EH&S prior to closing, vacating, relocating, or renovating a laboratory or research support space.
- Responsible for all deficiencies not corrected by the PI/Area Supervisor.
- Responsible for any supplies, equipment, or other materials that remain in the decommissioned space.

Environmental Health & Safety

- Communicate guidance for the safe handling of biological, chemical, and radioactive materials.
- When contacted by a lab for hazardous waste removal, schedule a waste pick up for the laboratory.
- When contacted for a laboratory closeout survey, verify all close-out activities have been completed appropriately. If concerns are identified, EH&S will notify the PI/Area Supervisor. Upon completion of the closeout process, EH&S will inform the PI/Area Supervisor and/or the responsible Dean/Department Head/Director.



PROCEDURES:

Laboratory Closeout Process:

- Through submission of a [Laboratory Closeout Review service request](#), EH&S must be notified prior to closing, vacating, relocating, or renovating a laboratory or research support space. At least thirty (30) days advance notice is requested.
- The primary point of contact for the closeout will receive an email confirmation indicating the request has been received by EH&S.
- When preparing to closeout a lab, please heed the information outlined in this document, accompanying EH&S guidance, and refer to the EH&S Laboratory Closeout Checklist.
- Upon returning the completed checklist to EH&S, a Lab Closeout Review will be scheduled to ensure that hazards are appropriately mitigated.
- Once all closeout review deficiencies have been addressed, EH&S will issue a final closeout approval notice.

General Housekeeping:

- Check all benchtops, cabinets, and storage devices for any hazardous materials.
- Trash shall be removed from the space including empty containers, papers, and disposable materials. Remove all lab matting, absorbents or chucks from all benches and cabinets and empty all drawers. Non-hazardous materials may be disposed of as general waste.
- All lab containers (beakers, flasks, etc.) must be emptied and cleaned.
- Uncontaminated broken glass or unwanted glassware shall be disposed of in a glass waste box with a clear plastic liner.
- Sharps, such as needles and/or razor blades, shall be disposed of through appropriate channels.
- All surfaces and equipment that are potentially contaminated with hazardous materials must be appropriately decontaminated. Decontamination of equipment must be certified by EH&S using the Equipment Decontamination Form.

Chemical Hazards:

- If chemicals will be moved to another laboratory, adhere to the following guidance:
 - I. Moving chemicals between labs within a building:
 - Chemicals must be appropriately segregated and placed in adequate secondary containment.
 - Chemicals maintained in secondary containment are to be placed on rolling carts for transport.
 - II. Moving chemicals between buildings:
 - Hazardous chemicals are to be appropriately segregated and packed in covered, leak-proof containers as cushioned with vermiculite.
 - The preferred transport method is a sturdy handcart with a lip on four sides to prevent containers from



sliding off. Cart(s) must be sturdy enough to handle weight of the boxes and manage the terrain.

- Alternatively, appropriately packaged chemicals may be transported using a vehicle, granted:
 - Chemicals are solely transported using a state vehicle. Use of a personal vehicle or public transport is strictly prohibited.
 - Chemicals may not be transported in the passenger compartment of the state vehicle.
 - Transport of chemicals can only occur on contiguous campus. Transport of chemicals on non-campus roads will warrant additional regulatory considerations.
- Adequate personal protective equipment and spill control material must be available in the event of a spill. Staff must be trained in the proper method of use.
- If leaving any chemicals in a decommissioned space:
 - Chemicals must be in the original container. Stock solutions, diluted solutions, or chemical mixtures formulated by the lab are not to be retained.
 - The container must be fully intact and properly capped (no parafilm or foil)
 - The label must be affixed and clearly legible.
 - Hazardous chemicals must not be older than 10 years.
 - Any chemicals that do not meet the aforementioned parameters must be properly disposed of.
 - High hazard chemicals (notably including peroxide formers, perchloric acid, and acutely toxic chemicals) cannot be left behind and must always be disposed of through EH&S Hazardous Waste Management.
- Under no circumstances may any regulated hazardous chemical be disposed of into the drain, sewer or trash. Regulated hazardous chemicals must be disposed of through EH&S Hazardous Waste Management.
- DEA Controlled Substances:
 - The U.S. Drug Enforcement Agency (DEA) issues controlled substance registrations to individual researchers. Abandonment of a controlled substance is a violation of the DEA permit under which it was held.
 - When closing out a lab affiliated with DEA controlled substance, please adhere to [ORC&S Controlled Substance](#) guidance.
- Compressed Gas:
 - Remove gas connections, replace cylinder caps, and return cylinders to suppliers.
 - All cylinders must be returned to the suppliers.
 - If cylinders are non-returnable, consult with EH&S Hazardous Waste Management for guidance.
- Remove any bench paper. Wash all potentially contaminated work surfaces, notably including the fume hood and counter tops, with soap and water.

Biological Hazards:

- Biohazardous materials must be properly inactivated and/or disposed of in full accordance with applicable IBC protocols. In brief, please heed the following:
 - Solid biohazardous waste must be collected in leak-proof biohazardous waste bag which is either autoclave inactivated prior to disposal as regular trash, incinerated onsite, or appropriately packaged and



collected by a contracted biohazardous waste disposal service provider.

- Liquid biohazardous waste must be inactivated either with bleach (1 part bleach to 9 parts waste) or an appropriate autoclave cycle. If void of any other regulated hazard, inactivated liquid waste can be disposed of via the sanitary sewer.
 - Biohazardous sharps must be collected in a sharps container that is labeled with a biohazard symbol and disposed of as biohazardous waste.
 - Tissues/specimens in liquid preservatives require that the tissue and liquid be separated and the liquid disposed of as a hazardous (chemical) waste through EH&S. The preservative may not be poured down the drain.
- If biohazardous materials are transferred to another investigator, heed the following:
- Samples must be clearly labeled to indicate the nature of the biological material.
 - Electronic/physical records must accompany the biological materials.
 - If biological materials align with genera and species regulated by the [Federal Select Agent Program](#), sample labels and accompanying records must clearly specify the applicable exemption/exclusion criteria.
- If biological materials are to be transported, please adhere to the following:
- Personnel transporting biological materials shall be appropriately trained, including on how to handle spills.
 - Double contain the items in plastic leak-proof containers within sturdy outer packaging.
 - Include absorbent material within the containers as well as padding to minimize movement of the container(s) within the outer packaging.
 - Wipe the outer container with an appropriate disinfectant before removing it from the laboratory and apply a biohazard sticker.
 - Put the laboratory name and contact information on the outer package.
 - The preferred transport method is to use a clean, leak-proof cart with a lip on four sides to prevent containers from sliding off and to contain any potential spills. The materials themselves must be in sealed containers, clearly labeled with the contents and applicable hazard(s).
 - Biological materials shall be transported from laboratory to laboratory without any stops in public areas such as offices, cafeterias, or restrooms. Limit transport through public or highly-traveled areas and use freight elevators when possible.
 - If a vehicle must be used, use a state vehicle. Materials classified as dangerous goods by the US DOT are not to be transported in private vehicles or using public transportation.
- If shipping biological materials, please adhere to the following:
- Packaging and shipping biological materials must be performed by trained personnel in compliance with DOT and IATA standards.
 - Contact EH&S Biological Safety for any questions or concerns regarding biological material shipping.

Radiological Material Hazards:

- Investigators are responsible for notifying the University Radiation Safety Officer (RSO) if there is any change which would render the University license inaccurate. Notably, this includes:



- Change of use location of radioactive materials
 - Procurement or disposal of any radioactive material without prior approval or notification of the University RSO
 - Procurement, transfer, or disposal of any radiation producing machine
 - Additional users for radioactive materials previously approved under other Authorized Users
- Equipment and labs with radiological material hazards must be decommissioned through EH&S Radiation Safety.
-