

## GUIDELINES FOR LABORATORY DECOMMISSIONING

Based on Lab Decommissioning Program, Emory University

### PURPOSE:

The purpose of this document is to provide direction and guidance for proper laboratory closure (including relocations within campus) and decommissioning of all University of Alabama laboratories or other related areas.

- ***Proper closure / decommissioning prepares a laboratory to be called “Safe and Compliant”.***
- ***Proper laboratory closure:***
  - *Ensures that the vacated space is in a stable and known condition, safe for individuals unfamiliar with the laboratory to enter.*
  - *Reduces disposal costs associated with unwanted and unknown hazardous materials, and*
  - *Encourages sustainability through redistribution of unwanted, useable laboratory equipment and supplies.*

**Ultimate responsibility for preparing a laboratory to be Safe and Compliant lies with *departmental management*. If a lab is vacated without completing the decommissioning procedures, departmental management will be billed for EHS Time and Materials spent on decommissioning lab spaces.**

The following activities must be completed when a laboratory is vacated.

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## GENERAL GUIDELINES

- Package and move lab items only during normal business hours so EHS emergency staff will be available to help if there is a spill or accident. Depending on the items and the extent of transport, EHS may need to help with chemical packing, transport, shipping, etc.
- Arrange for heavy equipment to be transported for you. Call facilities, the movers or the project manager. Never transport hazardous materials alone.
- Wear personal protective equipment appropriate for the material being handled.
- Researchers/Lab occupants are responsible for notifying EHS of a move to a new lab space or laboratory closure (retirement, renovation, leaving UA, etc).
- Researchers must terminate and/or transfer all protocols, remaining biological materials and radioactive isotope authorizations (if applicable) and if leaving UA.
- Perform basic surface and visible decontamination of all assigned laboratory spaces. This includes common areas such as cold rooms, stock rooms, waste collection areas, dark rooms, and equipment rooms. This also includes storage units such as freezers and refrigerators.
- Perform basic surface and visible decontamination of all laboratory equipment.
- An Equipment Hazard Tag should be affixed to the equipment to be moved when decontamination is complete. Additional information on completing the Hazard Tag is available.
- Each PI has ultimate responsibility for the removal of all hazardous substances from their assigned laboratory space(s). Waste disposal guidelines must be followed.
- In the event of an employee exposure or a spill (chemical, biological, or radiological spill)
  - **During normal business hours** call EHS at 205-348-5905. Normal business hours are 6am-5pm.
  - **Outside of normal business hours** - dial 348-5454 to contact UAPD Dispatch or 911 from a campus landline phone

## CLEANUP AND DECONTAMINATION

- All hazardous waste must be identified and properly disposed of.
  - Identify the types of waste that are present in each of these areas. Some examples of the types of lab waste include:
    - Chemical Waste
    - Radiological Waste
    - Pharmaceutical Waste
    - Biological/ Biohazardous Waste
    - Sharps
    - E-Waste (ex: DVDs, CDs, Data cards, Laptops, Hard Drives, Monitors, etc).
    - Glassware
    - Gas Cylinders
    - Aerosol Cans
    - Oils/Lubricants
    - Universal Waste (Batteries --excluding alkaline batteries, Pesticides, Lamps, Mercury containing materials)
- University of Alabama Hazardous Waste disposal guidelines **MUST** be followed and are available on the EHS website:
  - Chemical Waste: Chemical Hygiene Plan
  - Radiological Waste: Radiation Safety Manual
  - Biological Waste: Biosafety Manual

- ❑ All areas of chemical and biological agent use or storage must be cleaned. This includes but is not limited to:
  - Bench tops
  - Chemical storage cabinets
  - Chemical fume hoods
  - Biological safety cabinets
  - Laboratory shelves
  - Ovens
  - Incubators
  - Refrigerators
  - Freezers
- ❑ If applicable, the radioactive materials use area decommissioning process must be completed. Please refer to the University of Alabama Radiation Safety Manual.
- ❑ If applicable, chemical fume hoods must be decontaminated by a certified vendor. Contact EHS *at least 30 days prior to move* to determine if this is required.
- ❑ **The Lab Safety Manager should be contacted to complete laboratory closure (205-348-5912 or email mhuey@ehs.ua.edu). After verification, EHS will sign and post the *Laboratory Safe and Compliant Certification*.**
- ❑ **Unwanted, useable items (lab equipment, lab supplies, chemical reagents, etc.) in good condition:**
  - All useable chemical reagents and lab equipment and supplies can be transferred to another investigator in the same department.
  - If unable to transfer these items, then contact EHS or the Building Representative to assist in redistribution.
  - All lab equipment must be cleaned by lab occupants and a hazard tag affixed prior to transfer.

#### **CHEMICAL REAGENTS**

- ❑ Chemical reagents must be securely closed and boxed according to compatibility. Contact EHS for guidance on transportation of chemicals to your new laboratory. EHS may need to move or ship materials for you.
  - Call 205-348-5912 or email mhuey@ehs.ua.edu.
- ❑ Unwanted Chemical containers that are to be disposed of must be labeled with Unwanted Chemical Labels and pickup requested thru the CEMS inventory system.
- ❑ Unwanted chemicals that are still usable must be boxed according to compatibility and separated from chemical waste. This can be picked-up at the same time as the chemical waste or delivered to the EHS –Lab Safety receiving area by appointment. **Do not label unwanted usable chemicals with the EHS Unwanted Chemical Label. Do label them with a clear inventory list of contents.**

#### **RADIOACTIVE MATERIALS**

- ❑ The UA Radiation Safety Officer must be contacted as soon as possible.
- ❑ Radioactive Waste must be disposed of through EHS. Guidance for packaging and disposing of radioactive waste are available in the University of Alabama Radiation Safety Manual.
- ❑ Lab personnel must wipe down fume hood work surfaces, sinks, bench tops and equipment where radioisotopes were used.

- Lab personnel must remove radioactive labels, stickers, and tape from all facility equipment, refrigerators, sinks, and hoods following decontamination.
- For laboratory closures, all dosimeter badges, survey meters, radioactive sealed sources, and isotope inventory must be returned to EHS.

### **CONTROLLED SUBSTANCES**

- Controlled Substances must be disposed of according to Federal Regulations.
- Drug disposal must be conducted through EHS.
- DEA and AL Board Pharmacy will require a change of address. Please visit the DEA website and the State Board of Pharmacy website for more information:
  - o DEA Website: [http://www.deadiversion.usdoj.gov/drugreg/change\\_requests/index.html](http://www.deadiversion.usdoj.gov/drugreg/change_requests/index.html)
  - o State Board of Pharmacy website: <http://www.albop.com/>

### **BIOLOGICAL AGENTS**

- Biological materials must be transported in a leak proof primary container and securely positioned in a secondary leak proof container (ex: ice chest or cooler). Secondary containers must be clearly labeled with Biohazard symbol.
- Biological materials stored in freezers and refrigerators must be secured.
- Freezers may be moved with samples inside but must be prepared by laboratory staff for transport. Staff should ensure that samples are packed into non-breakable containers (plastic, metal, or cardboard).
- All voids within the freezer should be filled with packing material to prevent the contents from shifting during transit. The outside of the freezer should be decontaminated prior to moving it out of the laboratory.
- Equipment must be locked or securely closed. The hazard tag must be affixed by lab occupants.
- Biohazardous waste must be disposed of through the UA contracted vendor.
- EHS** must be contacted *at least 30 days in advance* for decontamination of Biological Safety Cabinets, Laminar Flow Hoods, and Glove Boxes prior to removal from lab.
- Transportation and shipment of biological materials off-campus must be done according to national transportation rules. Contact EHS-Lab Safety for specific shipment requirements at 205-348-5912.
- Laboratories moving off campus that need to transport biological or infectious samples should:
  - o Use a moving company to transport the samples
- OR**
  - o Pack and ship the samples through a shipping company such as FedEx.
- If the lab uses a moving company to transport their samples, the company must be Department of Transportation (DOT) certified to transport biological and infectious material and have a method for refrigerating samples during transport.
- If the lab ships their samples through a shipping company, the person who packs the samples must have taken Shipment of Infectious Agents and Biological Materials Training within the past two years and pack the samples according to DOT and IATA regulations.
- If the lab does not have personnel trained in these programs, EHS personnel can assist with packing and shipping biological and infectious materials.

### **MATERIAL TRANSFER AGREEMENTS (MTAS)**

- Material Transfer Agreements (MTA) are used to transfer materials (generally biological) from one institution to another. An MTA is a contract between the owner of a material and the intended recipient governing the transfer and subsequent use of the material. Exemplary materials include bacteria, cultures, nucleotides, proteins, plasmids, cell lines, transgenic animals, and pharmaceuticals. Since an MTA is a contract that governs the transfer of materials, it also covers issues such as ownership of the transferred materials, modifications and derivatives made by the recipient, limitations on use of the materials, and confidentiality.
- Material Transfer Agreements (MTA) are handled by the Office for Technology Transfer, <http://ott.ua.edu/>

### **ANIMAL AND HUMAN TISSUE**

- Animal parts, carcasses, excreta, bedding, etc. must be disposed of through UA Medical Waste Program in accordance with disposal guidelines from the Animal Care Facility.
- Human tissue specimen must be placed in the appropriate container and disposed of through UA contracted medical waste vendor.
- Tissue held in a liquid preservative must be separated from the liquid.
- The preservative may require disposal as hazardous chemical waste. If you are unsure, contact the EHS Lab Safety Manager at 205-348-5912 or email [mhuey@ehs.ua.edu](mailto:mhuey@ehs.ua.edu).

### **SHARPS**

- Dispose of ALL needles and syringes (used or unused) in appropriate sharps containers.
- Neither EHS nor Housekeeping picks up sharps containers for disposal.
- Lab Occupants should seal and label sharps containers and dispose of them in the nearest UA dumpster.

### **UNIVERSAL WASTE / E-WASTE**

- Dispose of lamps/bulbs, batteries, and mercury containing articles must be done through EHS.

### **GAS CYLINDERS**

- Unwanted gas cylinders must be returned to the vendor.
- Compressed gas cylinders and cryogenic gas cylinders must be relocated by the gas distributor.

### **ASBESTOS CONTAINING MATERIAL (ACM)**

- Material identified as ACM must be disposed of through EHS. This includes cementitious lab/table tops, woven heat protection equipment (gloves, hot pads, etc.), older laboratory fume hoods (cementitious panels inside), and ovens.

## **OTHER HAZARDOUS MATERIALS**

- There can be hazardous substances within laboratory equipment. Some examples include Freon, lead paint, mercury, and PCBs.
- Mercury containing equipment includes Manometers, Thermometers, Barometers, Mercury Switches
- PCB Containing Equipment includes: Diffusion Pumps, Transformers
- Freon Containing Equipment includes: Refrigerators, Freezers, Low Temperature Chambers

## **Summary**

- Equipment designated for relocation to the new laboratory and laboratory equipment to be left for the next occupant must be cleaned and an Equipment Hazard Tag hazard tag affixed.
- Equipment disposed of through Surplus Property must be cleaned and defrosted/drained (if necessary) and an Equipment Hazard Tag hazard tag affixed prior to pickup.
- Equipment Hazard Tags must be reviewed by EHS personnel, signed, and affixed to equipment per Equipment Hazard Tag Guidelines.
- All biological, chemical and radioactive waste must be disposed of properly prior to vacating research space(s).
- Work surfaces of Chemical Fume Hoods and Biological Safety Cabinets must be decontaminated.
- EHS must be contacted to schedule decontamination of Biological Safety Cabinets and Chemical Fume Hoods, if needed.
- Researchers/ Lab Occupants must perform preliminary clean-out and basic surface and visible decontamination.
- EHS must then be called to review that the laboratory is ready for movers, construction, and/or facilities to enter.
- EHS will sign off on the Certification of *Lab as Safe and Compliant –post decommissioning form* and affix to the door of the laboratory.
- If you have any questions, contact EHS at 205-348-5905 or EHS Lab Safety Manager at 205-348-5912 or email [mhuey@ehs.ua.edu](mailto:mhuey@ehs.ua.edu).

## **REFERENCES:**

- ANSI/AIHA Z9.11-  
<http://orf.od.nih.gov/AboutORF/awardsandrecognition/awardsandrecognition/ORFRecognitionThree.htm>
- Biosafety in Microbiological and Biomedical Laboratories, 5<sup>th</sup> Edition  
[http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL\\_5th\\_Edition.pdf](http://www.cdc.gov/OD/ohs/biosfty/bmb15/BMBL_5th_Edition.pdf)
- Committee on Prudent Practices for Handling, Storage, and Disposal of Chemicals in Laboratories, Board on Chemical Sciences and Technology, Commission on Physical Sciences, Mathematics, and Applications, National Research Council,. 2007. Prudent Practices in the Laboratory: Handling and Disposing of Chemicals, National Academy Press: Washington, D.C.
- EPA Environmental Management System Standard - 40 CFR 262.105 (b)(8)
- OSHA Lab Standard (Occupational Exposure to Hazardous Chemicals in the Lab) - 1910.1450