LABORATORY

CLOSE OUT POLICY

Alabama A & M University
Environmental Health and Safety

Approved by Cabinet October 15, 2002

This policy addresses laboratory closures or relocations and the associated disposition of hazardous materials.

All non-fixed equipment and supplies are required to be removed from laboratories for Closeout or relocation. Exceptions must be secured from EH&S in writing.

No hazardous materials shall be disposed of down drains or into the regular trash receptacles.

Proper disposition of all hazardous materials used in the laboratories is the responsibility of the principal investigator or researcher to whom a laboratory is assigned. Ultimate responsibility for hazardous materials management lies with each departmental chair.

Environmental Health and Safety (EH&S)) will conduct a laboratory closeout survey following the actual closing of the lab. The closeout survey must be completed and EH&S approval given to the department in order to complete the Personnel Office's "Employee Exit Checklist". Please schedule a date for this survey as soon as possible but no later than one week in advance of the request date.

CLOSEOUT OR RELACATION PROCEDURES FOR HAZARDOUS MATERIALS IN LABORATORIES

CHEMICALS

GENERAL

- Under no circumstances may any chemical be disposed of into the sewer or trash.
- Check refrigerators, freezers, fume hoods and bench tops as well as storage cabinets for chemical containers.
- Determine which chemicals are usable and relocate/transfer responsibility for these materials to another party who is willing to take charge of them. If chemicals will be moved to another laboratory, ensure that the EH&S policy "Movement of Laboratory Owned Research Chemicals" is followed. This is attached in "Appendix B".
- If a new user cannot be found, materials must be disposed of properly through EH&S. Assure that all waste containers of chemicals are labeled with the name of the chemical(s). Hazardous waste labels are available through EH&S free of charge. Abbreviations or chemical symbols are not acceptable labeling. All containers must be securely sealed and not be leaking. All containers (beakers, flasks, etc.) must be emptied and cleaned. Hazardous chemical wastes must be clearly labeled and collected for disposal. Submit a "Chemical Waste Disposal List" to EH&S for disposal of chemicals. (These forms are available in EH&S)
- Wash all fume hood surfaces and counter tops.

COMPRESSED GAS CYLINDERS

- Remove gas connections, replace cylinder caps, and return cylinders to suppliers.
- If cylinders are non-returnable, consult EH&S for disposal instructions.

BIOLOGICAL MATERIALS

ANIMAL TISSUE

- If tissue is held in a liquid preservative, tissue and liquid should be separated. Liquid preservative usually needs to be disposed of as a hazardous waste. Contact EH&S for assistance. The preservative may not be poured into the sanitary sewer.

- If appropriate disposal is uncertain, refer to the Biological Waste Disposal or contact your Biological Safety Officer.

- Defrost and clean refrigerators and freezers once they are empty. An effective disinfectant is a 1:100 solution of commercial bleach.

- If samples need to be saved, locate the appropriate individual to take responsibility for them and notify the Departmental Chair.

MICROORGANISMS, CULTURES, AND RECOMBININANT DNA

- Steam sterilization, placed in the appropriate biohazard bag or box, labeled, and contact EH&S shall inactivate all infectious and/or recombinant material for disposal.

- Liquid material may be inactivated by the addition of commercial bleach to result in a 1:10 dilution. After sitting in the fume hood overnight, the material may be poured down the drain.

- Pease refer to the "Biological Waste Disposal Policy" for guidance on the disposition of biological waste.

- Clean incubators, drying or curing ovens, refrigerators, and freezers. An appropriate disinfectant is a 1:100 dilution of commercial bleach.

- If samples need to be saved, locate appropriate person to take responsibility for them and notify the Department Chair.

TRANSPORTING BIOLOGICAL MATERIALS

- Please refer to "Appendix C" for requirements and guidelines to be followed for transporting biological materials.

RADIOACTIVE MATERIALS

GENERAL

- All radioactive materials must be disposed of as radioactive waste through Environment Health and Safety (EH&S) or transferred to another authorized user. If the radioactive material is to be transferred to an approved user at Alabama A & M, ensure that the appropriate documentation is approved by the Radiation Safety Officer and the State of Alabama Public Health, Radiation Control prior to transfer. If the radioactive material is to be transferred to another license or returned to the manufacture, make arrangements for the Radiation Safety Officer to approve the material for shipment.

- Radioactive materials may only be moved by the approved user of the materials and transported in appropriately shielded containers.

- Following removal of all radioactive materials, perform a loose surface contamination survey (and if appropriate, a radiation level survey for gamma emitters) of all former storage and use areas within the laboratories to be closed out. NOTE: Areas of potential residual contamination include refrigerators, freezers, centrifuges, fume hoods, water baths, incubators, sinks, waste storage areas, etc. All areas and equipment that exceed 100 disintegrations per minute (dpm)/100 square centimeters (cm2) must be decontaminated and follow-up surveys documented until the area or equipment is less then 100dpm/100cm2. Equipment that cannot be decontaminated must be disposed of as radioactive waste.

- After the final loose surface contamination survey demonstrating all areas and equipment in the laboratory are less then 100dpm/100cm2, schedule an official close out survey with the Radiation Safety Officer. Do not allow further use, including housekeeping clean up, of the laboratory until the Radiation Safety Officer has completed the survey, removed all radioactive materials postings and notified the Principal Investigator (PI) that the laboratory has been released.

- If the Principal Investigator fails to satisfactorily complete the above steps, the Department Chairperson will be responsible for the completion of the required close out steps. The Department Chairperson is responsible for immediate notification of the Radiation Safety Officer if the above steps have not been taken.

INVENTORY & DISPOSAL OF RADIOACTIVE MATERIALS ANDRADIATION PRODUCING DEVICES

- The Radiation Safety Officer is required to maintain an inventory of all radioactive materials and all radiation producing devices to confirm licensing and registration with the State of Alabama Department of Public Health, Radiation Control. Each PI is responsible for notifying the Radiation Safety Officer if there is any change, which would render the licensing or registration inaccurate. Such information includes: change of use location, transfer or disposal of any radioactive isotopes, radiation machine or major component thereof. Transfers are defined as follows

    1. On Campus Transfers

       Since approval for the procurement and use of a radioactive materials or a radiation producing device was initially given for the original working area and the proposed research under the supervision of the approved Principal Investigator, materials and devices **shall not** be transferred from one area to another or to another individual without approval of the Radiation Safety Officer.

    2. Off-Campus Transfer:

       Radioactive materials and Radiation producing devices **shall not** be shipped or transferred to, or from any University facility, or outside organization without prior approval of the Radiation Safety Officer.

    3. Disposal of Radioactive Materials and Radiation Producing Devices:

       Prior to the disposal of radioactive materials and of obsolete or irreparable equipment, the Radiation Safety Officer and the State of Alabama Department of Public Health, Radiation Control **must** be notified in order to amend the inventory lists.

LABORATORY EQUIPMENT

- All equipment must be disinfected and decontaminated by lab staff and certified as clean and safe for handling. This includes, but not limited to, all fume hoods, refrigerators, freezers, centrifuges, biological safety cabinets, incubators, ovens, countertops, cabinets, etc.

- Biological safety cabinets must be decontaminated prior to being released. Please contact the Biological Safety Officer for information

LABORATORY SUPPLIES.

- Never place laboratory materials, even if sterile or in unopened cartons, into regular trash for disposal. These will not be accepted into landfills.

- All glassware, both-contaminated and non-contaminated must be disposed of in biohazard boxes.

- All syringes, needles, vacutainers, scalpels, etc., must be placed into sharps boxes for disposal.

- Non-contaminated laboratory supplies may be given to another researcher for use.

SHARED AREAS

- All shared space must be cleaned of materials and cleaned by the departing staff or another Principal Investigator must assume responsibility for the space and its contents. These shared spaces will include labs, equipment rooms, storage areas, cold rooms, dark rooms, autoclave rooms, etc.

APPENDIX -A

TELEPHONE NUMBERS:

Environmental Health and Safety Dr. Robert Lehman	372-4091
Biological Safety Officer Dr. Florence Okafur	372-4926
Radiation Safety Officer Dr. Robert Lehman	372-4091
Plant and Soil Safety Officer Dr. Robert Taylor	372-4187
School of Engineering Safety Officer Dr. Koy Cook (Interium)	372-5561
Food & Animal Science Safety Officer Dr. S. Oguto	372-4182
Chemistry Safety Officer Dr. James Thompson	372-4908
Campus Police Dispatcher	372-5555
Physics Safety Officer Dr. A. Sharma	372-8102
Laser Safety Officer Dr. Matthew Edwards	372-8119
Center for Irradiation of Materials Dr. Claudiu Muntele	372-5879

APPENDIX - B

HADARDOUS WASTE FORMS:

The following forms are available free of charge from Environmental Health and Safety (372-4091) or E-mail (aamrhl01@aamu.edu)

Biohazard (Tag)	5709C
Radiation Hazard Identity (Tag)	5570C
Workplace Accumulation Container (Label)	24439
Caution Radioactive Material (Label)	20332
Biohazard (Label)	22350
Universal Waste (Label)	42109
Non-Regulated Waste (Label)	484P
Non-Hazardous Waste (Label)	478P
Hazardous Waste (Label)	29187P
Hazardous Chemical Waste (Label)	PNS4/97
Chemical Waste Disposal List	NPS-001
Hazardous Waste (White Label)	620
Hazardous Waste (Yellow Label)	433
Chemical Labels	706
Gas Cylinder (Tags-Multiple Use)	499
Gas Cylinder Tags (Red Empty)	5515

Alabama A & M University
Environmental Health and Safety

APPENDIX – C

POLICY: **Movement of Laboratory Owned Research Chemicals**

PURPOSE: To ensure the safe handling and movement of research chemicals from lab to lab and building to building. This does not effect the movement of new chemicals being delivered.

Effective Date: October15, 2002

Departmental staff may move chemical bottles from one laboratory to another laboratory if the following conditions are met:

- Staff who will be doing the moving of the bottles must be trained in the proper handling of chemicals.
- Chemical bottles and containers are in good condition.
- Chemical bottles and containers are adequately labeled.
- Boxes used to move chemicals are in good condition and are sturdy enough to handle weight of the bottles of chemicals.
- Boxes are not excessively large to prohibit overloading or safe handling.
- Bottles of chemicals are segrgated and packed into boxes by hazard class. Non-compatible chemical may not be packed or moved in the same box. (Call EH&S for information)
- Glass bottles and all bottles containing liquids will be packed in boxes with a buffer of vermiculite or other similar absorbent material. Plastic or unbreakable bottles of powdered or non-liquid chemicals may be packed with compatible chemicals without absorbent material.
- Each box of chemicals will be inventoried for contents as it is being packed. Required information will include chemical name, number of bottles and quantity in each.
- Boxes must be labeled distinctly with the corresponding inventory page.
- Copies of the inventory must be kept in each box, with the moving crew and in the originating lab.
- Carts used to move boxes must be sturdy enough to handle weight of the boxes and terrain it will be moved over.
- Any compressed gas cylinder being moved must be secured on a cart or rack. Small lecture bottles must be packed as bottles (see above).
- Adequate spill control material must be available for use by the moving crew. If the boxes are being moved between buildings, the spill control material must be available on the vehicle in use.
- Adequate personal protective equipment must be available for the moving crew in the event of a spill. Staff must be trained in the proper method of use.
- EH&S must be notified of the movement of these chemicals prior to the start and at the completion of the move.
- An updated inventory for the originating lab (showing the removal of the chemicals) and the receiving lab (showing the gaining of the chemicals) must be completed and kept on file in each of the respective labs and mailed to EH&S.

Alabama A & M University
Environmental Health and Safety

APPENDIX -D

POLICY: **Biological Materials Transport Policy**

PURPOSE: To prevent accidents and ensure that Alabama A & M personnel are not exposed to biological materials during their transport. It is intended to ensure compliance with local, state, and federal guidelines and regulations concerning the transport of biological materials. Please note the special regulations (e.g. DOT, OSHA), must be observed when shipping or transporting materials outside the campus.

Effective Date: Ocober15, 2002

GENERAL REQUIREMENTS:

- Personnel transporting biological materials shall be appropriately trained. This included Blood borne Pathogen training for those transporting human blood, and training specific to any individual pathogen being moved.
- Proper personal protective equipment shall be worn. At a minimum, a lab coat and gloves are required. Goggles shall be worn while packaging and unpacking infectious materials.
- Biological material shall be placed inside an appropriate leak-proof primary container with a tight-fitting lid. These containers should be plastic, glass, or metal. Amounts of liquid culture greater than 50 ml shall not be transported without written permission from the Biological Safety Officer.
- Primary container shall be placed within a leak-proof, shatter-resistant secondary container. The surface of the secondary container shall be easily cleaned. It shall be labeled with the biohazard label if infectious materials are being moved. Rubbermaid or similar brand coolers or plastic boxes with tight-fitting lid may be used.
- Primary containers shall be placed upright in the `secondary container. Tube racks or other means shall be used to assist with this.
- All packages containing infectious substances must be labeled with the contents and a name and phone number of the responsible party.
- Biological materials shall be transported from laboratory to laboratory without any stops in public areas such as offices, other labs, or restrooms.
- The receiver of transported biological materials shall be prepared to receive materials. At a minimum wear a lab coat, gloves, and safety goggles. The receiver shall have a plan to deal with damage or broken primary containers. Forceps, a sharps container, and an appropriate disinfectant shall be available for decontamination and disposal of broken glass or plastic materials.

Special requirements for transport in liquid nitrogen

1. Use a plastic primary container
2. Use a secondary container capable of withstanding very cold temperatures