Carnegie Mellon University Standard Operating Procedure	Date:	7/30/2004	Rev.	001
	Procedure Number			
Subject:	Laboratory Close-out Procedures for Carnegie Mellon University			

Scope: This procedure addresses the safe and compliant closing of laboratories.

Applicability: The procedure applies to the closure of any Carnegie Mellon research or teaching laboratory in which chemical, biological or radiation hazards are either present or have not been safely removed.

Purpose: The purpose of this procedure is to ensure that laboratory closures are performed in a manner that is safe, cost effective and in compliance with all applicable regulations.

Authority: This policy has been approved by the Carnegie Mellon Laboratory Safety Committee, the Carnegie Mellon Radiation Safety Committee, and the Department of Environmental Health and Safety.

Procedure:

1. The laboratory's Principal Investigator (PI) is responsible for the safe operation of the laboratory or suite of laboratories. This includes leaving any and all of these facilities in a safe condition when the lab is vacated.

2. As soon as the closure of the laboratory has been agreed upon, the Department must notify EH&S in writing. Provide the following information:

- Laboratory location(s)
- PI name, phone and email contact
- Reason for close-out (move from Carnegie Mellon, move within Carnegie Mellon)
- Estimated date for moving of the laboratory
- Whether radioactive material were used in the lab, and the details (isotopes, sealed or open sources, etc.)
- Whether biological materials were used in the lab, and the details (i.e., Body fluids, tissues, microorganisms, rDNA)
- Whether hazardous chemical materials were used in the lab, and the details (types or classes of materials or specific items)
- Indicate the waste issues anticipated for the move:
    - ➔ Hazardous waste
    - ➔ Biological waste
    - ➔ Radiological waste
    - ➔ Compressed gases
    - ➔ Mixed class waste (identify)
    - ➔ Unlabeled or unknown materials

3. As soon as practical, EH&S, the PI and a departmental representative will tour the laboratory area(s), to identify any safety or environmental issues that need to be addressed. As a team we will jointly develop a close out plan customized to the lab(s) issues.

4. The plan shall identify whether any of the following situations are applicable to the close-out and develop the process to address each item.

- Identify any hazardous items that are planned for transfer to another area within Carnegie Mellon, identify the safety and environmental issues applicable, and plan the specifics of the move.

- Identify any hazardous items that are planned for transfer to a non-Carnegie Mellon facility, identify the safety and environmental issues applicable and plan the specifics of the move. Note that the US Department of Transportation has strict regulations on the movement of hazardous materials; EH&S will be able to advise the PI on these issues.

- Identify any hazardous materials that are unneeded. A plan for addressing each item, through waste disposal, treatment/neutralization, returns to vendors (such as with compressed gases), or material exchange with other campus laboratories, must be developed. Note that there are regulatory limitations set by the EPA, NRC and other authorities on the extent of treatment or neutralization of hazardous materials permitted. All university requirements regarding waste and recycling are applicable to these items with regard to proper waste handling. Material transfers must only be made to persons or groups approved for the use of the materials. The expertise of the university Chemical Hygiene Officer, the Biological Safety Officer and/or the Radiation Safety Officer should be used where appropriate, in the development of the waste handling plans.

- Locate any unknown or unidentified materials present in the lab. Prepare a plan to identify each item, either through research or testing of the materials.

- Identify any facility-related items that may be of some safety or environmental impact, such as PCB containing fixtures, lead paint or asbestos.

- Locate any areas or surfaces that may need to be decontaminated. This decontamination may be necessary for biological, chemical and/or radiation hazards. Items that may need to be decontaminated include but are not limited to the following:

  ➔ Desks or bench top surfaces
  ➔ Fume hood interiors and/or fan and duct systems
  ➔ Glassware, tubing, regulators and other chemical apparati
  ➔ Refrigerators, freezers and/or ovens and autoclaves
  ➔ Drain traps (mercury deposition)

5. Identify any precautions that may be necessary to perform the actual moving of hazardous materials and other items. For example, consider the need for any of the following:

- Moving carts or dollies
- Protective equipment, such as gloves, eye protection, protective shoes, etc.
- Spill control equipment and secondary containment for the hazardous materials being moved, should an accident occur
- Have boxes for unexpected waste materials, such as biological waste or broken glass

6. If the laboratory is moving to another Carnegie Mellon space, that area should be inspected during the close-out tour to ensure that facility conditions are appropriate for accepting the moved items.

7. If your chemical inventory is moving completely or in part to another Carnegie Mellon space, ensure that the associated chemical inventory has been changed to reflect the move. For chemicals moving to non-Carnegie Mellon space or are being disposed of, similarly change the chemical inventory to reflect the new circumstances. Likewise, notify EH&S for the movement of biological or radiological materials of devices.

8. Notify EH&S of the time of actual packing and moving.

9. EH&S will notify the department in writing of the final decommissioning of the laboratory space.

Prepared by: _____

Mark R. Banister, Manager, Chemical Safety

Approved by: _____

Madelyn Miller, Director, Environmental Health and Safety

Accepted by: _____

Department Representative

Sample Checklist of Completion Activities for Laboratory Close-out

Principal Investigator _____ **Email** _____
Laboratory Room(s) _____ **Phone** _____

General Issues

☐ EH&S has been notified of the laboratory closing

Biohazardous Materials ☐ No biological hazards present in this lab

☐ Work surfaces and equipment have been decontaminated
☐ Biohazard waste and unneeded biohazardous materials have been properly removed
☐ Biosafety cabinet has been cleaned and decontaminated
☐ All remaining biohazards have been inventoried and properly labeled and stored
☐

Radiological Materials and/or Devices ☐ Radiological hazards have been addressed in this lab

☐ All radiological material and/or device inventories possessed by the laboratory are in agreement with the Radiation Safety (RS) Office's respective inventories.
☐ The laboratory and its contents have been surveyed for radiological contamination.
☐ Radiological posting requirements have been addressed by the RS Office
☐ The RS Office has collected any unwanted radiological material and/or device and its respective inventory record.
☐ All radiological material and/or devices have been labeled appropriately, as defined by the Radiation Safety Program.
☐ All transfers of radiological material and/or devices have been arranged through the RS Office.
☐ The RS Office has been notified as to which individuals must be terminated from the university's dosimetry program.
☐ Current postal information has been provided to the RS Office for individuals terminated from the university's dosimetry program.

Chemicals and Compressed Gases ☐ No chemicals or gases present in this lab

☐ All hazardous wastes and unneeded/unwanted chemicals have been properly removed
☐ All usable and needed chemicals are properly labeled, stored and stabilized.
☐ All gas cylinders have been properly removed, including lecture bottles and gas standards
☐ All fume hoods have been cleaned and re-certified for use
☐ All lab surface areas have been cleaned and decontaminated
☐

Other Hazards

- ☐ Broken glassware and non-contaminated sharps have been removed from the laboratory
- ☐ All mixed waste properly removed (i.e., chem./rad, rad/bio)
- ☐

This form accurately represents the status of the hazardous materials for which I am responsible:

Principal Investigator signature Date