Attachment B: Cover Page

PROPOSAL TO ADD NEW OR CHANGE EXISTING POLICY AND PROCEDURES

Select One:

☑ ADD NEW
1. Complete Attachment B (this page)
2. Complete Additional Information (page 3)
3. Attach proposed policy and procedures for review and approval

☐ CHANGE EXISTING
1. Complete Attachment B (this page)
2. Complete Additional Information (page 3)
3. Attach “Ramseyer Version” and “Final Version” as specified in the Guidelines for Establishing Campus Policies and Procedures

☐ DELETE EXISTING
1. Complete Attachment B (this page)
2. Attach justification for deletion

POLICY TITLE: Laboratory Decommissioning Policy

Responsible Office Information

NAME/TITLE: Roy Takekawa / Director
DEPARTMENT/SCHOOL/COLLEGE/OFFICE: Environmental Health and Safety Office
TELEPHONE: 956-3200 E-MAIL: takekawa@hawaii.edu

Responsible Executive

NAME/TITLE: Gary Ostrander / Vice Chancellor for Research and Graduate Education
TELEPHONE: 956-7837 E-MAIL: gko@hawaii.edu

Recommend / Not Recommend

_________________________________________  ________________________
Dean/Director        Date:

Recommended / Not Recommend

_________________________________________  ________________________
Vice Chancellor       Date:

Approve / Disapprove

_________________________________________  ________________________
Chancellor         Date:

POLICY NO / DATE: To be assigned by OVCAFO upon receipt of approved proposal
POLICY TITLE: LABORATORY DECOMMISSIONING POLICY

I. POLICY STATEMENT:

Prior to laboratories being vacated, all equipment, furniture, chemicals, radioactive and biological materials must be properly transferred, removed, or disposed.

II. PURPOSE:

This policy is to prevent and minimize risk to the campus community, including cleaning and maintenance staff, contractors, and new occupants who may enter vacated laboratories containing abandoned hazardous material.

III. APPLICABILITY/SCOPE:

This policy applies to all laboratories and auxiliary spaces serving laboratories and provides for the removal of potentially hazardous material from these spaces when the user is planning to vacate the space. This includes terminating affiliation with the University, relocating to another laboratory space, major laboratory renovation requiring relocation of hazardous materials, and retirement from research activities.

Facilities such as computer labs and music labs are not considered applicable under this policy.

IV. DEFINITIONS:

A. Decommissioning – the formal deactivation of a laboratory.
B. Laboratory – a facility where quantities of hazardous chemicals, biological, and radiological materials are used in a non-production basis, including research labs, student teaching labs, and clinical labs.
C. Principal Investigator (PI) – faculty, staff, or researcher responsible for supervising activities within a laboratory.

V. RESPONSIBILITIES:

A. Deans/Directors/Department Chairs are responsible for ensuring that PIs are aware of and follow the procedures contained in this policy.
B. Principal Investigators (PIs):
   1. Notify the appropriate departments (i.e., Facilities Management, Radiation Safety, Hazardous Materials Management, Laboratory Safety, and Biosafety) when vacating or relocating a laboratory.
   2. Complete the Laboratory Decommissioning Checklist (Attachment 1) and submit to the Environmental Health and Safety Office (EHSO) Laboratory Safety Program.
   3. Take specific measures to transfer or dispose of hazardous, radioactive, and/or biological materials before vacating or relocating. It is the PI’s responsibility to ensure that enough lead time (typically one month) is given to allow for proper management of these materials.
   4. Ensure all labs and storage areas are completely cleaned before leaving.
   5. Ensure all equipment, such as fume hoods, biological safety cabinets, flammable or corrosive storage cabinets, freezers, incubators, scintillation counters, autoclaves, and centrifuges are emptied and decontaminated (See Attachment 2).
   6. All research specific apparatus shall be dismantled, packaged, and removed.
   7. All compressed gas cylinders shall be removed prior to closing of the laboratory.
   8. All papers, books, rags, empty containers, boxes, bottles, glassware, plasticware, etc., shall be properly disposed of prior to vacating the laboratory.
   9. PI’s moving into existing laboratories must ensure that the facility has been properly decommissioned before moving in. Once responsibility for the facility has been turned over, all equipment and materials in the laboratory become the responsibility of the new PI.

C. Department/Unit:
   1. Responsible for verifying that PIs in their department/unit have notified the appropriate campus units, such as Radiation Safety and Facilities Management, when vacating or relocating a laboratory.
   2. Responsible for informing EHSO’s various departments of the new laboratory assignment.
   3. Accountable for costs, deficiencies, or any regulatory actions or fines resulting from improper management or disposal of regulated materials from laboratories that have not been properly decommissioned.

VI. PROCEDURES: Refer to section V.B. above.

VII. REFERENCES:
   A. Laboratory Decommissioning Checklist – Attachment 1
   B. General Waste Disposal Procedures (Equipment, Furniture, etc.) – Attachment 2
   C. Hazardous Materials Disposal/Laboratory Close-out Procedures - Attachment 3
   D. Biosafety Laboratories Close-Out Guidance Document- Attachment 4
   E. Radioisotope Laboratories Close-out Procedures - Attachment 5

VIII. HISTORY: Guidelines and procedures on hazardous waste handling have been in existence as listed above in REFERENCES (see B, C, D, and E). However, due to various reasons, including ignorance, lack of enforcement and accountability, and no notification to appropriate units, abandoned laboratory and auxiliary spaces on campus have caused health and safety concerns prompting the need for an official policy.
University of Hawai‘i at Mānoa
Laboratory Decommissioning Checklist

The purpose of this checklist is to assist Principal Investigators in safely removing hazardous materials from a laboratory and confirming that the area is free from contamination.

<table>
<thead>
<tr>
<th>Chemicals</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Refrigerators, areas under sinks, fume hoods, cabinets and shelves, and bench tops have been checked for storage of hazardous materials (including shared spaces).</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All chemical containers have been labeled and ready for disposal, transfer, or recycling in accordance with the University of Hawai‘i Hazardous Materials Management &amp; Disposal Guidelines.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Refrigerators have been emptied, defrosted, and cleaned.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>Storage areas have been cleaned: chemical residues, drips, and spills are appropriately decontaminated and cleaned up.</td>
<td></td>
<td></td>
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<tr>
<td>All bench tops have had disposable liners/cover removed from the work surface and surfaces have been cleaned.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>All keys to lockable chemical storage cabinets have been returned to the department.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Controlled Substances</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>All storage areas are free of controlled substances.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All controlled substances have been disposed of or transferred according to U.S. Drug Enforcement Agency regulations and requirements.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Compressed Gas Cylinders</td>
<td>Yes</td>
<td>No</td>
<td>N/A</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-----</td>
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</tr>
<tr>
<td>Cylinders have been properly labeled and secured.</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Cylinders not in use have been disconnected and capped.</td>
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</tr>
<tr>
<td>Arrangements have been made for returning empty cylinders to vendors.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All cylinders have been labeled and ready for disposal, transfer, or recycling in accordance with the University of Hawaii Hazardous Materials Management and Disposal Guidelines.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Radioactive Materials</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radioactive waste materials have been handled in accordance with the University of Hawaii Radioactive Waste Disposal Procedures.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>The removal of radioactive materials and termination surveys has been coordinated with the Radiation Safety Officer in accordance with the guidelines in the University of Hawaii Radiation Safety Manual.</td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Biological Materials</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>All work surfaces and storage areas, including walk-in coolers, freezers, refrigerators and incubators, have been decontaminated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All inside working surfaces of the biological safety cabinets have been decontaminated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certification of the biological safety cabinet is current.</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Arrangements have been made for the decontamination and replacement of the HEPA filter in the biological safety cabinet, if required.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All sharps have been properly disinfected and placed in puncture resistant containers for disposal.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>All biological waste has been autoclaved and properly disposed of.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are there biological materials that need to be transferred to another location? If yes, contact Environmental Health and Safety Office for transport information.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has the Responsible Official (Research Office) been contacted to advise that experiments using a Select Agents and/or Toxins will be terminated and the Select Agents and/or Toxins will be destroyed?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>All equipment has been disinfected and decontaminated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Is any equipment going to be transferred to surplus? If yes, then equipment must be inspected by EHSO prior to transfer to surplus.</td>
<td></td>
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</tr>
<tr>
<td>Is any equipment connected to permanent building systems being removed for transfer with the exiting investigator? If yes, contact Facilities Management.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has all broken glass been placed in a rigid, puncture resistant container and sealed in preparation for disposal by Buildings and Grounds Services?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Records

<table>
<thead>
<tr>
<th>Has a copy of the last current lab/chemical inventory been provided to the department head?</th>
<th>Yes</th>
<th>No</th>
<th>N/A</th>
</tr>
</thead>
</table>

I have, to the best of my knowledge, complied with the requirements of the University of Hawai‘i at Mānoa Laboratory Decommissioning Checklist and am not aware of any other items or special circumstances that are not listed on this form.

Principal Investigator: ____________________________ Date: ________________
Department Chair: ________________________________ Date: ________________

Final Inspection Sign-Off

Laboratory Safety Officer: __________________________ Date: ________________
Biological Safety Officer: __________________________ Date: ________________
Radiation Safety Officer: __________________________ Date: ________________
Waste Disposal Procedures for the University of Hawaii at Manoa

This guide was developed to assist campus departments in disposing of waste materials generated by official University operations. These procedures do not apply to the disposal of personal or household wastes. Personal property should not be brought on campus for disposal since the University must pay for all wastes that are disposed of. The University is subject to very strict regulations regarding the disposal of almost anything. The U.S. Environmental Protection Agency, State of Hawaii Department of Health, City and County of Honolulu, and private landfills all have their own rules and regulations that apply to various types of waste material and these rules change frequently. As an example, the City and County has banned all ferrous metals, glass, and appliances from its landfills and H-Power plant. In addition, cardboard and green waste is limited to ten percent (10%) of each load. Potential penalties include fines, rejection of entire loads and denial of access to the disposal facilities. All the trash from the campus' building dumpsters is taken to the H-Power plant, therefore each department must assist in assuring that wastes are properly segregated and disposed of appropriately.

The University has its own garbage truck and refuse crew. Contents from refuse dumpsters are loaded into the garbage truck and the loads are compacted (crushed) inside the truck. This is why the following materials should not be placed in the refuse dumpsters:

1. **Lumber / Metal** - even a short piece can cause the compactor blade in the truck to jam.
2. **Wet / Liquid wastes** - containers containing liquids are often broken during the compacting process and leak out of the truck or splash onto our refuse workers.
3. **Unpackaged glass** - the glass may shatter during compaction posing a hazard to our refuse crew.
4. **Powdery material** - such as sawdust, ash, etc. should be double bagged to prevent release in truck during compaction.
5. **Regulated Waste (hazardous, biological, radioactive)** - it is illegal to dispose of regulated waste in the municipal waste stream.

For more detailed waste disposal procedures, please refer to the specific [Waste Categories](http://www.hawaii.edu/ehso/compliance/waste1.htm).
WASTE CATEGORIES

- Animal Carcasses
- Batteries
- Biological Wastes
- Cardboard
- Chemicals
- Equipment
  - Office Equipment & Furniture (including Computers)
  - Scientific Equipment
  - Freon Containing Equipment
- Gas Cylinders
- Glass
- Green Waste
- Light Bulbs
- Metals
- Oil
- Paints
- Painting Equipment
- Paper
- Radioactive Wastes
- Soil (Uncontaminated)
- Thermometers
- Wood / Lumber

ANIMAL CARCASSES

Non-laboratory carcass

Chemically Preserved Animal Carcasses and Tissues (Vertebrate and Invertebrate)

1. Tissues, body parts and carcasses must be separated from any liquids. Liquid preservatives (i.e. Formalin) should be screened to eliminate all solid material and may be regulated as a hazardous waste, please contact the Hazardous Materials Management Program (HMMP) at x63198 for proper disposal procedure for these liquids.

2. Preserved tissues must first be thoroughly rinsed and dried prior to wrapping. Wrap tissues/carcasses in newspaper or other absorbent material.

3. Wrapped tissues (10 lbs. or less) should be double bagged and sealed in plastic. No free liquid should be present in the bags. Larger quantities (more than 10 lbs.) will necessitate different procedures. Please call Buildings and Grounds Management Office for evaluation and recommendations on your particular situation.

4. Identify bags with: P.I. name, location (department), and emergency
Unpreserved Animal Carcasses and Tissues (Vertebrate and Invertebrate)

1. Tissues, body parts and carcasses must be separated from any liquids. Liquid should be screened to eliminate all solid material. Unpreserved liquids can be discarded down the drain.
2. Wrap tissues/carcasses in newspaper or other absorbent material.
3. Wrapped tissues (10 lbs. or less) should be double bagged and sealed in plastic. No free liquid should be present in the bags. Larger quantities (more than 10 lbs.) will necessitate different procedures. Please call Buildings and Grounds Management Office for evaluation and recommendations on your particular situation.
4. Identify bags with: P.I. name, location (department), and emergency phone number, weight and a label indicating contents.
5. Contact the University's Biological Safety Program (x63197) for specifics on procedures and drop off locations or contact the University's Laboratory Animal Service (x68770) (there may be a fee for the disposal for Non-LAS users).

BATTERIES

- Household type (alkaline or carbon-zinc): Dispose in regular trash
- Lead-Acid Nickel-Cadmium (Ni-Cad): Submit to EHSO for disposal (See HMMP)
- Lithium containing: (NOTE: Batteries must be removed from equipment prior to submission to EHSO)

BIOLOGICAL WASTES

See Biohazardous Waste Disposal Guidelines

CARDBOARD
Flatten boxes, bundle (tie) together and place near *paper recycling bin*.

**CHEMICALS**

Before disposing as waste, offer your unused chemicals to other UH staff who may be able to use it through the UH Electronic Swap Meet ([http://www.hawaii.edu/swapmeet/](http://www.hawaii.edu/swapmeet/)). For disposal instructions, refer to the *Hazardous Materials Management Program (HMMP)*.

**OFFICE EQUIPMENT & FURNITURE (including COMPUTERS)**

Offer your excess furniture and office equipment to other UH staff who may be able to use it through the UH Electronic Swap Meet ([http://www.hawaii.edu/swapmeet/](http://www.hawaii.edu/swapmeet/)) or call the FPMO Surplus Warehouse (6-8887) to see if it can be reused. If not, submit proper forms to take equipment off of your inventory. Submit a work request to FPMO (6-7134) for pick-up of the equipment and attach a copy of the approved disposal form to the work request form.

**COMPUTERS**: See also the ITS *Disposal Guidelines for Obsolete Computer Equipment*.

**SCIENTIFIC EQUIPMENT**

Remove and properly dispose of any potentially hazardous components (radiation sources, PCB containing transformers, lead-acid/Ni-Cad batteries, etc.). Contact EHSO with any questions regarding the hazardous components. Submit a work request to FPMO (6-7134) for pick-up of the equipment. If the item is on UH inventory, attach the approved disposal form to the work request.

**FREON CONTAINING EQUIPMENT (Refrigerators, Air-conditioners, etc.)**

[http://www.hawaii.edu/ehso/compliance/waste2.htm](http://www.hawaii.edu/ehso/compliance/waste2.htm)
Submit forms to take equipment off your inventory (if necessary). Contact a properly trained and certified vendor (e.g., Refrigerant Recycling Inc.) directly for disposal. Freon containing equipment must be disposed of by a company licensed to handle this type of material.

GAS CYLINDERS

Cylinders should be returned to vendor. See HMMP.

GLASS

See Glass Recycling. Departments requiring assistance in transporting large quantities of glass items may submit a work request form to FPMO (6-7134).

GREEN WASTE

Bag, label as "GREEN WASTE" and place next to refuse dumpster.

LIGHT BULBS

Regular incandescent bulbs

Dispose of in regular trash. Package to prevent glass hazard.

Fluorescent bulbs (black end caps)

Various campus units collect and recycle older type bulbs. See fluorescent bulb disposal procedure.

Fluorescent bulbs (green end caps)

Dispose of in regular trash. Package to prevent broken glass hazard.
METALS

Call Landscaping (67922) for special pick-up.

OIL

Call EHSO for special instructions (HMMP).

PAINTS

Latex (or water-based) paint is typically a non-regulated substance. However, some latex paints are regulated if they contain EPA-listed metals, such as arsenic, barium, cadmium, chromium, lead, mercury, selenium, or silver.

Reading the label is the easiest way to determine whether or not a latex paint contains any of the above metals, and is therefore a regulated substance. If the label is missing or unreadable, the paint should be considered regulated.

Regulated paints may still be used for their intended purposes. Just ensure required paints are properly stored for future use; and, unwanted ones are turned into EHSO for proper disposal. Never place regulated paints in the trash!

Non-regulated paints may be disposed of in the regular trash; but, only after they are completely dried (never place liquid paint into the trash). Apply the following guidelines prior to trash disposal:

- Containers with small paint quantities (approximately less than one inch) can be placed without their lids, in a well-ventilated, covered area until dry.
- Containers with large quantities (approximately more than one inch) can be absorbed on to materials such as: clay-based kitty litter, saw dust, or shredded paper.

Recycle empty/dry, non-regulated metal paint containers by submitting a
work request for a scrap metal pickup.

Oil-based Oil-based paints are regulated substances. Submit to EHSO for disposal (see HMMP). Never place oil-based paints in the trash!

**PAINTING EQUIPMENT**

Includes any item used in painting activities, such as: paint brushes, rollers, roller pans, rags, paper, buckets, scrapers, paint stirrers, and drop cloths (plastic or canvas).

Disposal of these items depends on the type of paint used (refer to “Paints” section above).

- Regulated (e.g., oil-based or latex with EPA-listed metals): Turn all equipment into EHSO for disposal. Do not place items in trash!
- Non-Regulated (e.g., latex with no EPA-listed metals): Let equipment completely dry before placing in trash.

**PAPER**

See [Paper Recycling](http://www.hawaii.edu/ehso/compliance/waste2.htm)

**RADIOACTIVE WASTES**

See [ Procedures for Isotope Shipments and Waste Disposal](http://www.hawaii.edu/ehso/compliance/waste2.htm)

**SOIL (UNCONTAMINATED)**

Bag, label as "Soil" and place next to refuse dumpster. Call Landscaping (67922) for pickup of large quantities. For contaminated soil, call EHSO for special instructions.
THERMOMETERS (MERCURY)

Submit to EHSO for disposal. See HMMP.

WOOD / LUMBER

Call Landscaping for special pick-up. DO NOT PUT LARGE PIECES IN DUMPSTER! May cause damage to refuse truck.

Sawdust should be double bagged, tied, and put into dumpster.
CLOSE-OUT PROCEDURES FOR DEPARTING/RETIRING FACULTY AND STAFF

Proper disposition of all hazardous materials used in the workplace is the responsibility of the chemical user or supervisor/Principal Investigator (PI) to whom a chemical use room/laboratory is assigned. Enforcement of this policy is the responsibility of the supervisor/PI. Proper disposition of hazardous materials is required whenever a chemical user leaves the University or transfers to a different laboratory/chemical use room. This process should be started at least a month before departure from the chemical use room/laboratory to allow ample time to properly dispose all materials. Hazardous waste pickup should be completed before the chemical use room/laboratory is vacated. The disposal must be in compliance with the University's Hazardous Materials Management Plan. The following checklist should be completed prior to the chemical user's departure. Once completed, the checklist should be signed and submitted to the user's Dean or Director and to the Environmental Health and Safety Office (EHSO).

If periodic inspections by the EHSO reveal that proper close-out procedures have not been followed, the EHSO will oversee correction/remediation of any problems created by failure to follow those procedures, and the cost of correcting those problems will be charged to the budget of the level V unit within which the problems were identified by the EHSO.
# CHEMICAL USER CLOSE-OUT CHECKLIST

**DATE:**
**BLDG:**
**ROOM(S):**
**SUPV/PI:**
**DEPT:**

<table>
<thead>
<tr>
<th>REQUIREMENT</th>
<th>YES</th>
<th>NO</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Have shared storage units such as refrigerators, freezers, cold rooms, stock rooms, etc. been properly surveyed in order to locate and appropriately dispose/designate remaining chemicals?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are all chemical containers labeled and/or listed in a logbook or inventory with the name and hazard?</td>
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<td></td>
</tr>
<tr>
<td>3. Are all containers securely closed and in good condition?</td>
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</tr>
<tr>
<td>4. Have beakers, flasks, vials, evaporating dishes, etc. been emptied and the contents properly disposed?</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Remember to check refrigerators, freezers, cold rooms, fume hoods, biological safety cabinets, bench tops, storage cabinets, stock rooms, etc.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Have you determined which chemicals and compressed gas cylinders are usable and transferred responsibility for those materials to another party who is willing to take charge of them? If a new user cannot be found, the materials must be disposed.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Were controlled substances disposed of as specified by the Drug Enforcement Agency (DEA) permit under which they were held? Abandonment of a controlled substance is a violation of the DEA requirements.</td>
<td></td>
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</tr>
<tr>
<td>7. Was permission received from the DEA to transfer ownership of a controlled substance to another individual?</td>
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<td></td>
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</tr>
<tr>
<td>8. Were non-transferable compressed gas cylinder connections removed, cylinder caps replaced, and cylinders returned to suppliers? If cylinders are non-returnable, contact the Hazardous Material Management Program at x63198.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Has all laboratory equipment been cleaned or decontaminated? Were fume hood surfaces and bench tops washed?</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
10. If laboratory equipment will be discarded, have the following items been removed prior to disposal:
- Capacitors?
- Transformers?
- Mercury switches and thermometers?
- Refrigerant fluids containing chlorofluorocarbons?
- Radioactive sources and chemicals?
Contact the Environmental Health and Safety office (EHSO) for assistance.

11. Were chemicals targeted for hazardous waste disposal prepared by following procedures in the Hazardous Materials Management Program?

12. Did you leave a copy of your lab notebook in the lab? Its care has been transferred to

13. Have you submitted the completed checklist to your Dean or Director and the EHSO?
**EHSO Fax: 63205**  **Email: labsafe@hawaii.edu**

**NOTE:** If any radioactive material or biological commodities were used in the lab, please contact the Radiation Safety Officer (66475) and/or the Biological Safety Officer (63197) at the EHSO.

**REQUIRED SIGNATURES:**

<table>
<thead>
<tr>
<th>Chemical User</th>
<th>Supervisor/PI</th>
<th>Department Head*</th>
</tr>
</thead>
</table>

*By signing this checklist, you as Department Head are declaring that items 1 through 13 have been addressed. No signature would mean that the lab has not been closed-out properly. Therefore, the transfer of lab equipment to departing staff will be delayed.*
Guidance Document: Biosafety Facilities Close-Out

A. Documentation (Close-Out/Moving)
   1. Provide a complete inventory of all biological commodities.
   2. Submit inventory with a completed and signed BSP-2 form.
   3. Attached copies personal acquired federal and state permits and authorizations. (All federal and state agencies must be notified prior to move).
   4. Follow close-out procedures.
   5. May require current Biological Shipping and Receiving training.

Assess all biological materials (recombinant DNA materials, microorganisms, cells and cell lines, tissues, organs, body fluids, and biologically-derived or -contaminated media) and determine which materials will be moved to your new laboratory, transferred to another investigator or disposed.

Dispose of the remaining materials as you would have during the course of experimentation. For example, solid materials (including Petri dishes and microfuge tubes) should be autoclaved and disposed as biological contaminated waste.

B. Moving Biological Commodities from Lab

Many laboratory materials, including biological commodities are regulated. Regulated biological commodities include all microorganisms: bacteria, fungi, virus, animals (vertebrate and invertebrate), plants plant parts and seeds, human tissue, blood or body fluids, biological derived toxins and drugs, etc. Federal permits from USDA, CDC, DEA EPA, Commerce, Customs and DOT, as well as, State HDOA and HDOH permits may be required prior to transport, transfer or destruction.

1. Cultures and Stocks of microorganisms

   Microorganisms are subject to the requirements of the U.S. DOT when being moved or shipped (Risk Group 2 or greater). HDOA must be notified if the microorganisms have an import or possession permit. Federal agencies may require notification.

2. Human and Animal Materials (Blood, body fluids, cell line, organs)

   We strongly encourage all laboratories working with human or animal materials (blood, sera, cell, tissue) to plan for the movement of these materials, whether at ambient temperatures or frozen. This will allow
appropriate time to clean incubators and other equipment, and go through the other requisite steps for the move.

3. **Preserved Tissue and Specimens**

Any tissue or biological specimen preserved in formaldehyde, mercuric chloride, 70% ethanol, glutaraldehyde, DMSO, or other preservatives should be included in your chemical inventory, using the preservative name and volume. These containers MUST be shipped as hazardous materials. All containers MUST be PROPERLY SEALED (so they cannot leak) and labeled with the full chemical name to be lab-packed and moved. Check directly with EHSO Hazardous Materials Management Program, if disposing.

3. **Biological Contaminated Wastes**

Decontaminate **all** wastes. Biological waste must not be transported. All sharps containers in use, whether or not they are full, must be disposed of as biological waste prior to the move. See biological wastes procedures.

4. **Select Agents and Toxins**

Any Select Agents or toxins must not be moved by any outside contractors. All necessary federal requirements must be adhered with including notification to USDA and proper forms completed. Call for OVCRGE Compliance for further information.

5. **Biological Derived Toxins and Drugs**

If they are controlled under Federal/State Drug Enforcement Agencies, prior to movement or disposal they must be notified.

Disposal of biological toxins and drugs must be through an approved disposal method either autoclaving or neutralization.

6. **Animals**

The transport of any live vertebrate animals used in teaching or research must be approved by and coordinated through the Laboratory Animal Services (LAS) and IACUC

Invertebrates under permits from the NFWS or DLNR must be notified.

C. **Moving Equipment**
All equipment, apparatus, and fixed structure must be cleaned and decontaminated as necessary. Once decontamination is done, any work that can re-contaminate the premises must be prohibited.

Decontaminate all surfaces (interior and exterior), first with soapy water and then secondly with an appropriate working dilution of an appropriate disinfectant. Remember: Contact time of at least 10-15 minutes. Rinse with fresh water as some disinfectants are corrosive.

Tag equipment, instruments, apparatus as cleaned and decontaminated (see attached "Equipment Owner Declaration tag"). Tag must be secured to the face of the equipment. Remove any universal biohazard symbol.

1. **Equipment Needing Repair**: Contact the service company to determine if they require written verification of decontamination before they will service equipment. Certifying that equipment has been properly decontaminated is the responsibility of the lab. Consult the equipment manual for cleaning/decontamination procedures, policies, and chemical compatibility. If it is not possible to decontaminate the equipment, it must be properly packaged to prevent exposure and labeled to inform non-laboratory staff of the potential hazards present. When a service person (University or outside contractor) needs to work on equipment in the laboratory:
   - Prepare a working area which is clean and free of hazards,
   - Clear enough space for easy access around the equipment,
   - Remove any hazardous items stored near, on, or under the equipment,
   - Inform the individual of potential hazards in the laboratory (training),
   - Provide personal protective equipment if necessary.

2. **Centrifuge**: clean and decontaminate chamber, cups, and rotors or other parts as instructed by manufacturer (consult manual)

3. **Water baths, bio-fermenters, aquariums, reactors, and incubators.** Flush out all drains. Water jackets must be drained and emptied. Prior to water disposal, the water should be decontaminated before disposal down the sanitary drain.

4. **Biosafety Cabinets** All biological safety cabinets require a Biological Safety Program evaluation to determine required decontamination, even if they are not moved. If being moved, the equipment must be certified again after the move to ensure filter integrity. Make arrangements for this work in advance to allow contractors to meet your schedule.
All interior and exterior surfaces must be disinfected prior to moving them. This including under the work bench/grille and top of the BSC.

5. **Refrigerators**: Empty all refrigerators; clean and decontaminate inside and outside surfaces. Drain drip pans. Vacuum motor and grills.

6. **Freezers** containing biological commodities may be moved without emptying them if no infectious substances. If moving, complete inventory must be attached to the outside of the freezer.

   Laboratory personnel are responsible for preparing freezers for the move, ensuring that all loose vials and containers are properly packaged using unbreakable containers (plastic, metal, or cardboard).

   All spaces within the freezer must be filled with packing material to prevent the contents from shifting during transit.

   Once the freezer is prepared to move, decontaminate the exterior of the freezer. Secure and lock down. The movers will secure the freezer lid with plastic straps before moving the freezer.

   If freezer will be defrosted prior to move, water must be sterilized prior to draining.

   Liquid nitrogen freezers, cryostats, Dewar flasks, etc. Call vendor for proper instructions.

E. **Decommissioning a Lab**

All horizontal surfaces, including bench tops, floors, shelves, fire extinguishers, waste cans, electrical conduits, etc. should have been cleaned and decontaminated with appropriate disinfectant with appropriate contact time.

Sanitary drains must be flushed with bleach.

All universal biohazard symbols should be removed (entry doorway, wastes trash cans, bench tops).

F. **New Location**

No manipulation without proper federal, state and UH authorization. A new floor plan should have been submitted to Biosafety Program. When the materials arrive at the new locations, lab personnel will need to check contents for breakage/damage. Open all parcel in a biosafety cabinet. All biosafety cabinets must be certified prior to use.

G. **Post-Close-out/Move**
If inspections by the BSP reveal that proper close-out procedures have not been followed. BSO will oversee correction/remediation of any problems created by failure to follow those procedures, and the cost of correcting those problems will be charged to the budget of the Level V unit within which the problems were identified by the BSP.

H. Equipment Owner Declaration Tag (Example)

Tag equipment, instruments, and apparatus as cleaned and decontaminated. Tags should be printed on light Green paper and secured to the face of the equipment being moved or relocated. Printable "Equipment Owners Declaration tags" in a PDF format (2 tags/page, form fillable).
CLOSEOUT PROCEDURES FOR RADIOISOTOPE LABORATORIES

MOVING TO ANOTHER LABORATORY

1. Submit an Amendment Application to Authorization Form, RSP-3a, to add new laboratory location to your current authorization.
   a. Include floor plan of new lab space with areas marked for restricted area. Show where radioisotopes and radioactive waste will be stored on the floorplan.
   b. Show which sink will be the hot sink, if any.
2. Once new lab space is approved by the Radiation Safety Committee, do the following:
   a. Dispose of any radioactive waste by calling RSP for a waste pickup.
   b. if you need to move any radioisotopes to the new lab, call RSP to make arrangements to move your material.
   c. Clear out all big equipment not being kept at old lab. Clear all lab benches of materials, supplies, chemicals, etc.
      1) Move refrigerators, freezers, LSCs, gamma counters, and glassware from lab benches.
      2) Do a wipe test survey to ensure no contamination is left. Mark any fixed contamination that is present.
3. Call RSP to perform a final close out survey. If any contamination is found, you will have to decontaminate it and have RSP resurvey the area.
4. If you fail to clean up contaminated areas found, RSP will charge your department for its time used in cleaning up the laboratory.

LEAVING THE UNIVERSITY OR STOPPING RADIOISOTOPE USE

1. Submit a memorandum to the RSO stating that you will close out your authorization.
2. Arrange to have radioisotopes transferred to another PI or university, or dispose of your radioisotopes and arrange for a waste pick up. The RSP will assist you with the paperwork to transfer your radioisotopes to another university.
3. Clean your lab equipment of any contamination and transfer equipment to another PI or have them disposed. Notify RSP if giving fixed equipment to another PI.

4. Clear lab benches as much as possible of all lab supplies which were used with radioisotopes.

5. Call RSP for a close out survey or decommissioning survey. If any contamination is found, you must decontaminate the areas and have RSP resurvey your lab. If you do not decontaminate the area, RSP will charge your department for the time spent in the cleanup.