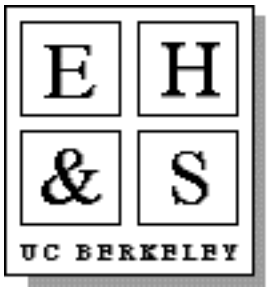
Laboratory and Shop Deactivation and Move Manual

University of California, Berkeley



Prepared by the Office of Environment, Health & Safety
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Table of Contents

Introduction

This *Laboratory and Shop Deactivation and Move Manual* is a guide for planning and executing a laboratory or shop relocation involving hazardous materials. Your specific deactivation, packing and moving requirements depend on the types of equipment and hazards in your laboratory. Review this manual for general guidance on planning a safe deactivation and move as well as responding to injuries or spills that may occur in the process.

Whether you are deactivating a space or moving within the same building, to a different campus building, or to an off-campus site, check with your Department Safety Coordinator (DSC) regarding department-specific procedures. You or your DSC may need to contact Physical Plant-Campus Services, Property Management, the Office of Environment, Health & Safety (EH&S), or other campus departments for additional assistance and services.

Generally, laboratory and shop staff should not transport hazardous materials outside their building; for exceptions based on hazards and quantities contact EH&S at 642-3073. Some materials, such as potentially explosive chemicals (PECs), should not be moved at all. In particular, special paperwork, packaging and training are legally required to transport hazardous materials on any public roadway; this should only be performed with assistance from EH&S.

At the back of this manual you will find checklists detailing specific requirements for packing and moving hazardous items in your laboratory or shop, including:

- **General conditions and equipment** (Appendix A)
- **Chemicals** (Appendix B)
- **Controlled Substances** (Appendix C)
- **Compressed Gases** (Appendix D)
- **Radioactive Materials Or Radiation Producing Machines** (Appendix E)
- **Biohazardous Materials** (Appendix F)
- **Lasers** (Appendix G)

The **Checklist for General Conditions and Equipment** (Appendix A) should be used by all departments, regardless of materials used. It provides guidance regarding safety equipment, required signage, and other issues that apply to most laboratories and shops.

Print and follow the relevant checklists as you plan and execute your move. By following the procedures in this manual, you can better organize, minimize delays, ensure regulatory compliance, and protect the health and safety of everyone involved in the deactivation or move.

Emergency Response

It is important to keep this emergency information available during your deactivation or move in case of an accidental spill or injury. For more detailed information about how to handle an emergency, please refer to your laboratory's Chemical Hygiene Plan or your shop's Hazard Communication Plan.

Injuries

Any seriously injured person requiring immediate medical attention should be transported to the hospital in an ambulance. Call 911 from a campus phone or (510) 642-3333 from a cell phone for assistance. After the injured person's immediate medical needs are taken care of, call EH&S (642-3073) to report the injury. Ensure that all workers compensation documents are completed and submitted in a timely manner.

- In the case of a chemical splash to the eye:
  Flush the eyes, holding the eyelids open, for 15 minutes at an eyewash station.
- For a skin exposure:
  Remove any contaminated clothing and rinse the affected area for 15 minutes in an emergency shower station.

Based on the severity of the exposure, follow the directions below.

Serious injury needing immediate emergency medical assistance:

Call the University of California Police Department (UCPD) at **911** from any campus phone or (510) 642-3333 from a cell phone.

Non-serious injury (M–F, 8–5 SAT, 9–5):

University Health Services Tang Center
2222 Bancroft Way #4300
Urgent Care: 642-3188
General Information: 642-2000

Serious or off-hours injury:

Alta Bates Hospital
2450 Ashby Ave, east of Telegraph
Emergency: 204-1303
General Information: 204-4444

Chemical Spills

You may clean up a chemical spill if you are properly trained to do so. (Please remember that contaminated clean-up materials must be disposed of as hazardous waste.) However, if the spill is large or includes a material you are not comfortable with, please contact EH&S for assistance.

Chemical, Biohazardous, or Radioactive Spills

8–5: EH&S: 642-3073
Off-hours: UCPD Dispatch: 911 or 642-3333

Old-Space Deactivation

Deactivation is the process whereby chemical, biological, biohazardous, and radiological materials and wastes are removed from a space prior to vacating it. Deactivation also includes the decontamination and/or cleaning of work surfaces, including bench and fume hood surfaces, equipment, whether destined for resale or disposal, and other areas that are potentially contaminated with hazardous agents. Deactivation procedures are necessary to comply with local, state, and federal regulations governing the use and disposal of hazardous materials and to protect the health and safety of construction workers involved in remodeling or reconstruction work and future occupants.

New-Space Preparation

It is best to visit your new space before you move, to ensure that it will meet your needs for safely storing and using hazardous materials. Specialized equipment such as flammable or corrosive-materials storage cabinets, refrigerators, and fume hoods should be ordered well in advance. Ensure that any physical modifications (electrical work, plumbing, etc.) have been completed and meet your needs. Plan ahead about how and where you will store your materials, so that you can pack and unpack most efficiently.

Finally, ensure that your new space has been appropriately decontaminated and cleared for reuse by EH&S before you move in. EH&S has a procedure for communicating whether or not a laboratory is free of hazardous materials contamination to renovation workers, new occupants, campus movers, and others. When staff leave a laboratory, the DSC and EH&S assess the laboratory for potential biohazardous, radioactive, or chemical contamination, and decontaminate when necessary. EH&S completes a form called "Facilities/Equipment Decontamination Clearance" (see attached sample at the end of this manual), and posts it on the laboratory door or on a piece of equipment. **If the space you are moving into does not have this form posted on the laboratory door or equipment, then it may not have been assessed or decontaminated. Contact your DSC or EH&S immediately.**

Health and Safety While Moving

Back Safety

Although you may not be moving your laboratory contents yourself, you will be packing boxes, moving items out of your way, and stretching and bending over and around objects. To prevent back strain, take the following precautions:

- Never twist, lift an object above shoulder height, or stretch or reach to pick up an object; these are the main causes of back injuries.
- Get as close to the object as possible to prevent excessive back strain. Even a light object lifted at arm's length can strain your neck and back, particularly if it is done repeatedly.
- Face the object squarely, whether it is a book on a shelf, a reagent bottle, or glassware.
- Do not reach for an object above your head; use a ladder or step stool to face the item at shoulder height, and ask for help to safely hand it down.
- Lift with your leg muscles, not your back. For light objects below waist level, you can counterbalance rather than squat.

For more information regarding safe lifting procedures, please visit the University Health Services website at: http://www.uhs.berkeley.edu/facstaff/ergonomics/lifting/index.shtml.

Personal Protective Equipment

When handling hazardous materials, be sure to wear the appropriate personal protective equipment (PPE) to prevent exposure to hazards. This may include gloves, lab coat, eye protection, and closed-toed shoes. For more information about appropriate types of eye protection, please refer to the EH&S Fact Sheet "Protecting Your Eyes," at: http://ehs.berkeley.edu/pubs/factsheets.html.

If you are unsure of the hazards of a particular chemical, refer to its Material Safety Data Sheet (MSDS). If a copy is unavailable in your laboratory, the MSDS can be found online from any campus computer at: http://www.ehs.berkeley.edu/healthsafety/msds.html.

APPENDIX A: Checklist for General Conditions and Equipment

Preparation

- Identify equipment you no longer want. Contact the Cal Overstock & Surplus Den at 642-1186 for proper transfer of these items. Note that some equipment may require decontamination or other clearance prior to transfer. Contact EH&S for additional assistance if you are transferring equipment that may be contaminated with chemicals, biohazardous materials, or radioactive materials, or unreturnable compressed-gas cylinders.

- If applicable, ensure that the Facilities/Equipment Decontamination Clearance form is posted on the door of your new space prior to moving in. If it is not posted, contact your DSC or EH&S.

Packing and Transportation

- Large equipment and sensitive instrumentation should be packaged and moved by professional movers. Please contact Property Management at 643-6262 to arrange for professional assistance.

- For packing office equipment and other items, follow the Property Management guidelines at: http://businessservices.berkeley.edu/property/movingservices/packing.

In Your New Space

- Many pieces of equipment, including fume hoods, refrigerators, eyewashes, and sinks, have labeling requirements. Contact EH&S for supplies of labels, stickers, and tags mentioned in this document (see additional checklists for specific labeling requirements).

- Follow the earthquake-preparedness guidelines for bracing furniture at: http://www.ehs.berkeley.edu/qbrace/qbrace.guid.html.

  Here are some basic precautions:
  - Brace cabinets and shelves over 48 inches high.
  - Store heavy objects on low shelves.
  - Secure objects that are stored overhead.
  - Provide cords, guards, or shelf-lips for storage-shelves and cabinets.

- Ensure that emergency eyewashes and showers are working, unobstructed, and accessible within 10 seconds of an unobstructed walk from chemical work areas.

- Verify that there is a tag on the eyewash for keeping a monthly flushing record.

- Verify that fire extinguishers are accessible within 50 feet of laboratory personnel.

- Ensure that all hazardous work areas have been appropriately posted with signs to designate the potential hazards (Biohazards, Carcinogens, High Voltage, Lasers, Radiation, Sonicators, UV Lights, etc.).

- Create a minimum of 28 inches of clearance in the aisles.

APPENDIX B: Checklist for Chemicals

Old Space Deactivation

- Identify and **do not handle** chemicals that are unsafe to move, and contact EH&S for immediate assistance in managing the following:

    - All unknown or unlabeled chemicals
    - Chemicals in corroded or leaking containers
    - Potentially explosive chemicals (PECs) such as unstable ethyl ether, opened containers of peroxide-forming materials more than six months old, or sealed unstabilized peroxide formers greater than one year old. See the EH&S publication, *Guidelines for Explosive and Potentially Explosive Chemicals.*

- Identify other unwanted chemicals. Safely package these items for EH&S pickup and submit a completed Materials Packing List (available electronically at http://mpl.ehs.berkeley.edu) to EH&S. For complete instructions, see the EH&S Fact Sheet, "Unwanted Hazardous Chemicals."

- Identify equipment that could be contaminated with hazardous chemical residues. Contact EH&S for proper decontamination and clearance prior to moving or disposing of the equipment.

- Contact the Chemical Inventory Program coordinator at EH&S to report that you will no longer be using chemicals at this location.

Move Preparation

- If you will be moving to an off-campus location and need to ship chemicals, contact EH&S to make the necessary arrangements. Do not transport hazardous materials on public roadways except through contractors and services approved by EH&S.

- If you are moving your own chemicals (i.e., your move is within your building), obtain carts, secondary-containment trays, and other equipment you will need. See the EH&S Fact Sheet, "Transporting Hazardous Materials."

- Identify the safest route for transporting items within your building - for example, use a freight elevator whenever possible, and do not carry heavy, fragile, or hazardous items in stairwells.

Packing

- Ensure that all chemical containers are in good condition, not leaking, tightly capped, and labeled with the chemical name and primary hazard. Chemicals in inadequate containers should be disposed of or repackaged prior to moving.

- Use sturdy boxes with partitions or cushioning to prevent bottle breakage.
- Divide chemicals into their compatible groups (e.g., flammables, acids, bases) and provide separate, labeled boxes for each group. For guidance on chemical compatibility, refer to the *Safe Storage of Hazardous Chemicals* booklet available electronically at http://ehs.berkeley.edu/publications.html, or contact EH&S for a hard copy.
- Keep an inventory as you pack, so that you can identify the contents of each box.
- Clearly label each box with the primary hazard (flammable, corrosive, toxic, etc.).
- Pack boxes so that they can be completely closed and taped shut. Do not allow bottle necks or stems to protrude.
- After packing all chemicals, decontaminate all potentially contaminated surfaces or contact EH&S to arrange for decontamination services. (Your laboratory will be recharged for these services.) If you are unsure of the appropriate procedures for decontaminating your lab or equipment, contact EH&S for guidance.

In Your New Space

- Update your laboratory's chemical inventory to reflect the new room location and any changes to the inventory. Log onto the chemical inventory database to complete these changes within 30 days of your move. For complete information, see: http://www.ehs.berkeley.edu/cheminv/cipaperinvins.html.
- Contact EH&S for a new hazardous materials door sign once you have updated your chemical inventory.
- There are many things to consider when choosing where to store chemicals in your new laboratory. For detailed information about proper storage, please refer to the EH&S booklet *Safe Storage of Hazardous Chemicals* at: http://ehs.berkeley.edu/publications.html

  Here are some basic precautions:
  - Label and segregate chemicals, including waste, by hazard class.
  - Store containers larger than one half-gallon in secondary containment tubs.
  - Store corrosive materials in low cabinets or on shelves below eye level.
  - Provide cords, guards, or shelf-lips for chemical-storage shelves, in case of earthquakes.
- Store flammables correctly and in accordance with fire codes.
- Revise and post the Chemical Hygiene Plan and ensure that all laboratory employees have read and signed the updated document.
- Ensure that the chemical fume hood is clean, uncluttered, and functioning. Contact EH&S if the hood has not been tested within one year.

- Verify that all labeling requirements have been met (contact your DSC or EH&S for these labels):
    - All sinks are labeled with required “No Chemicals” sticker.
    - All refrigerators and microwaves are labeled either “Safe for Food” or “No Food.”
    - All refrigerators are labeled as either “Unsafe for Storage of Flammables” or “Approved for Storage of Flammables.”
    - The chemical fume hood is labeled with the required “Clean Air” sticker.

- Storage and consumption of food and beverages is prohibited in laboratories where hazardous chemicals, biological hazards, unsealed radioactive materials, research animals, and/or human blood or tissues are present. See the Food in Laboratories Policy for additional details: http://campuspol.chance.berkeley.edu/policies/foodinlabs.pdf.

  In certain cases, a designated "clean area" may be established by clearly demarcating the perimeter with blue adhesive-backed tape (at least ½ inch wide) and at least one adhesive-backed "clean area" sign. The tape and sign are both available from EH&S (642-3073).

APPENDIX C: Checklist for Controlled Substances

Move Preparation

All controlled substances inventoried under a Controlled Substances Project Registration must be transferred to the new location and the change of storage location must be documented and dated in the Controlled Substances Logbook. All controlled substances must stay under close supervision at all times by authorized personnel.

Preparation:

- Notify Controlled Substances Program Manager about your laboratory's move.
- Identify the unwanted or expired controlled substances and request a pick up by EH&S. For complete instructions, go to: http://ehs.berkeley.edu/pubs/factsheets/06contrsubs.pdf.
- Identify safe storage location in your new space.
- Arrange a laboratory inspection by EH&S prior to the move to verify the security of the new storage space
- Complete the Controlled Substances Program Project Registration Form to update the Laboratory location. Once completed, this form has to be signed by the ACUC or by the Chair of the Department and sent to EH&S.
- Keep the Controlled Substances separated from all other chemicals during packing, transportation and unpacking.

Packing

The items should be packaged as follows to allow safe transport:

- Make sure all caps are closed tightly.
- Place multiple items in a sturdy box.
- Close the box lid completely so that nothing protrudes.
- Use packaging material such as newspaper to prevent glass containers from breaking.

In Your New Space

- Transfer all controlled substances and the inventory records (logbook) to the approved safe storage area.
- After the completion of the move, the laboratory will be inspected by EH&S.

Deactivation Procedures

Controlled substances used in research are not allowed to be transferred between the individual investigators and/or moved from the UC Berkeley Campus.

All controlled substances in the possession of the laboratory must be turned in to EH&S before the shut down of the laboratory as outlined below.

All controlled substances inventory records, (Logbooks) must be turned in together with the controlled substances to EH&S representative at the time of the pick up.

EH&S must be notified 30 days prior to the shut down date.

The following forms must be used to request the pick up of the controlled substances:

- Unwanted Controlled Substances Client Information (and based on the schedule of the Controlled Substances Registered on the Research project):
- Schedule II Return Request Form
- Schedule III-V Return Request Form

For complete instructions, go to: http://ehs.berkeley.edu/pubs/factsheets/06contrsubs.pdf

APPENDIX D: Checklist for Compressed Gases

Old Space Deactivation

- Contact compressed-gas vendors/suppliers and arrange for them to take back empty and unwanted cylinders.
- Contact EH&S for proper disposal of cylinders that vendors will not take back, including unknown, unlabeled cylinders or lecture bottles.
- If your work involved toxic gases, contact the Toxic Gas Program coordinator at EH&S to report that you will no longer be using the gas(es) at this location.

Preparation

- If you use or store toxic gases, your laboratory's Toxic Gas Use Authorization (TGUA) must be amended to reflect your new location. Contact EH&S at 642-3073 to begin this process.
- If you are moving to an off-campus location and need to ship compressed-gas cylinders, contact EH&S as early as possible to make the necessary arrangements.

Packing and Transportation

- Do not transport unknown or unlabeled cylinders; contact EH&S for proper disposal.
- Remove the regulator and secure the valve cap before moving a cylinder.
- Leak-test toxic and hazardous gases prior to moving them.
- Within a building, transport cylinders on a wheeled cart, carefully secured in an upright position so that they cannot fall. Never move a cylinder by rolling it across the floor.
- Do not leave cylinders unattended in corridors or other areas that are generally accessible. Never drop cylinders or bang them against each other or other objects.
- Immediately report all suspected leaks to EH&S (during office hours) or to 911 (after hours). If the material in the cylinder is highly toxic, evacuate everyone from the area. Place leaking containers in a fume hood if safe to do so.

In Your New Space

- Ensure that your TGUA has been amended to reflect your new location prior to starting research.
- Update your chemical inventory according to campus requirements (see In Your New Space in the "Checklist for Chemicals," on page 10).
- Secure compressed-gas cylinders to a stable place with two non-combustible restraints such as chains.
- Store lecture bottles and other small cylinders in ventilated locations, not in cabinets or cupboards.
- For detailed information about proper storage of compressed-gas cylinders, please refer to the EH&S booklet, Safe Storage of Hazardous Chemicals at: http://ehs.berkeley.edu/publications.html.

APPENDIX E: Checklist for Radioactive Materials or Radiation-producing Machines (RPM)

Preparation (Radioactive Material or Radiation Producing Machine)

- If you wish to move radioactive materials for storage or use in an **off-campus** location, you will need to plan well in advance. UC Berkeley's radioactive materials license authorizes radioactive materials only at specific locations. If an additional off-campus location is required, obtaining California Department of Public Health approval for the location can take several months. Also, for an off-campus move involving radioactive materials, EH&S will need to be involved in the shipping arrangements. Contact EH&S at 642-3073 to begin this process.

- In all moves, your laboratory's Radiation Use Authorization (RUA) must be amended to reflect your new location. In addition, if the move includes a Radiation Producing Machine (RPM), EH&S will need to file to update the machine location in UC Berkeley's registration with the California Department of Public Health. Contact EH&S (642-3073) to request the required changes.

- Prepare any radioactive waste for transfer to EH&S according to campus procedures; refer to the "Radiation Safety Laboratory Logbook," Section K: http://ehs.berkeley.edu/radsafety/radsaflogbk.pdf.

- Identify any tools and equipment that could be contaminated with radioactive material. Contact EH&S (642-3073) for proper decontamination and clearance prior to moving or disposing of the items.

- Make appropriate arrangements for transport and installation of RPMs in the new location.

- In the case of moves that involve radioactive materials, continue with the all the steps provided below; if the move will not involve any radioactive materials, skip ahead to the section titled "EH&S Termination Survey".

Inventory Verification, Packing, and Surveying Lab (Radioactive Material)

- **Important:** Before proceeding, carefully review your radioactive materials inventory records. Confirm that your inventory records are completely up-to-date and that you can account for all radioactive materials (solutions, sealed sources, sources contained in devices, etc.). **If you cannot account for all radioactive material, contact EH&S immediately** (642-3073)**.**

- Consult with EH&S (642-3073) regarding plans for moving pieces of equipment that contain radioactive sources (e.g. irradiators, gas chromatographs, liquid scintillation counters, soil moisture probes, etc.)

- Except for cases of equipment containing radioactive sources (see above), package your radioactive materials to minimize the chances for leakage or loss of any material during transport:

    - Radioactive liquids must be packaged in sturdy double containment (e.g. glass container in a plastic bag in a metal paint can) with enough absorbent material to absorb twice the volume of contained liquid.
    - Radioactive solids (and radioactive gases that are contained within a sealed source) must be packed to prevent damage and loss.
    - Radioactive gases (other than those contained within a sealed source - see previous bullet) may require special packaging; consult EH&S (642-3073).
    - At the time of the move any live animals containing radioactive materials must be transported in containers that have been approved by the Animal Care and Use Committee (ACUC).

- Label the exterior of each outer package with:

    - "Radioactive Material" and trefoil symbol
    - The isotope and amount of materials (in microCuries or milliCuries)
    - The name of the Radiation Use Authorization (RUA) Holder
    - Labels must be legible and indelible.

- After packing all radioactive materials, conduct a self-survey to check that the packages containing radioactive materials, laboratory surfaces and equipment are free of radioactive contamination. Contact EH&S immediately (642-3073) if you find contamination. Save this survey with your self-survey records.

On-campus Transportation (Radioactive Material)

- Radioactive materials are not permitted to be moved using a private or university-owned motorized vehicle, except in the case of campus or professional movers (see below).

- Radioactive materials are not permitted to be moved by persons using bicycles, unicycles, rollerblades, scooters, skateboards, etc.

- If you plan to move radioactive materials on the central campus using campus or professional movers, contact EH&S (642-3073) so that we can work with the movers regarding radiation-safety issues. (Note: most movers will not move radioactive materials.)

- In many cases, radioactive materials will be moved using a push-cart or will be carried by hand. The radioactive material must be taken directly from its original location to the new location that has been authorized under the RUA. Do not leave the materials unattended and do not make any side trips.

- Immediately after the move, perform a survey that includes the individuals, vehicles, carts, etc., involved in moving the radioactive material. Contact EH&S (642-3073) immediately if you find contamination.

- Important: Carefully review your radioactive materials inventory records and confirm that you can account for all radioactive materials (solutions, sealed sources, sources contained in devices, etc.). Check to assure that radioactive materials have not been damaged in transit and perform a survey of the packing materials to verify that there is no radioactive contamination present. If you cannot account for all radioactive material or if there is damage or contamination, contact EH&S immediately (642-3073).

Laboratory Deactivation
Radioactive Material or Radiation Producing Machines (RPM)

- When all radioactive materials and RPMs have been removed from the lab, leave the exterior door signs posted, but remove all interior copies of the RUA postings, labels, and radioactive ("RAD") caution tape. (If that space had previously been shared by more than one RUA and it will still be used by a remaining RUA, don't remove the postings, labels, etc. that a relevant to the remaining RUA.)

- Confirm that:

    - All interior radiation labeling and posting has been removed (EH&S will remove the postings from the exterior lab doors)
    - There are no radioactive materials present
    - There are no areas or equipment with contamination
    - There are no RPMs remaining

- Contact EH&S Radiation Safety (642-3073) to schedule a termination survey.

In Your New Space
Radioactive Material or Radiation Producing Machines (RPM)

- Important: If you have not already done so, carefully review your radioactive materials inventory records and confirm that you can account for all radioactive materials (solutions, sealed sources, sources contained in devices, etc.). Check to assure that radioactive materials have not been damaged in transit and perform a survey of the packing materials to verify that there is no radioactive contamination present. If you cannot account for all radioactive material or if there is damage or contamination, contact EH&S immediately (642-3073).

- Review your new location considering the security of your radiation sources. Unless users listed on your RUA are present, no one else should be able to access your radioactive materials or be able to operate your RPMs.

- Consider arrangements for break rooms and assure that RUA personnel will comply with the UC Berkeley policy for eating and drinking in laboratories: http://campuspol.chance.berkeley.edu/policies/foodinlabs.pdf.

- Review your RUA and the listed precautions. Be sure you have all required PPE and survey meters available and that users listed on the RUA know where these items are located. Also make sure the RUA has been correctly amended to reflect your new location prior to starting research. Post your new RUA and any posters required for radioactive materials or RPM use.

- Verify that door signs reading "Caution—Radioactive Materials" are posted on the doors to the laboratory, and that the emergency contact information is updated and complete.

- Ensure that all radioactive materials and waste storage areas are appropriately labeled and shielded.

- Cover the radioisotope work surfaces with plastic-backed absorbent paper labeled with RAD tape.

- Label designated refrigerators, freezers, fume hoods, sinks, and other equipment with RAD tape.

- Before using an RPM, contact EH&S (642-3073) to schedule a start-up survey of the machine.

APPENDIX F: Checklist for Biohazardous Materials

Old Space Deactivation

- Prepare medical waste for disposal according to campus requirements and take it to a medical waste pickup location. For a list of locations and complete procedures, refer to the EH&S Fact Sheet, "Managing and Disposing of Medical Waste." If there is no location near you, call EH&S for a pickup.
- Identify equipment that could be contaminated with biohazardous materials, including biological safety cabinets, refrigerators, and freezers. Contact EH&S for proper decontamination and clearance procedures prior to moving or disposing of the equipment.
- Contact the Biosafety Officer at EH&S to report that you will no longer be using biohazardous materials at this location.

Move Preparation

- Your laboratory's Biological Use Authorization (BUA) must be amended to reflect your new location. Contact EH&S at 642-3073 to begin this process.
- If you are moving to an off-campus location and need to ship biohazardous items, contact EH&S as early as possible to make the necessary arrangements.

Packing and Transportation

- Biological materials, including all etiologic agents, human and animal tissues, blood, blood products, other body fluids, and excreta, must be packaged in both primary and leak-proof secondary containers.
- Primary containers (e.g., test tubes, Vacutainers®, IV bags, culture flasks, etc.) must be tightly sealed to prevent leakage. Avoid contamination of the container's exterior. Surround the primary container with absorbent packing material.
- For secondary containers, choose rigid, sealable, and break-resistant containers such as Nalgene biotransporters, Tupperware, or plastic mailing tubes.
- Label primary and secondary containers with the universal biohazard symbol, the type of material, and the name and phone number of the Principal Investigator. Labels should be legible and indelible.
- Note that dry ice is a Department of Transportation-regulated hazardous material; contact EH&S for guidance when using dry ice to transport materials off campus.
- After packing all biohazardous materials, disinfect all potentially contaminated surfaces in the laboratory with an appropriate disinfectant. Contact EH&S to arrange decontamination and clearance of biological safety cabinets.

In Your New Space

- Ensure that your BUA has been amended to reflect your new location prior to starting research. Contact the Biosafety Officer to schedule an inspection prior to starting biohazard work.
- Label the new room with the universal biohazard symbol on the exterior door and in the areas where the biohazardous work will be performed.
- Provide a labeled sharps container for contaminated broken glass and needles.

APPENDIX G: Checklist for Lasers

Old Space Deactivation

- Ensure that all electrical equipment/devices that may have stored electrical energy, such as capacitors, are properly de-energized/discharged.

- Ensure that all laser-related hazardous materials are packaged and transported in accordance with all applicable requirements. See appendix B, "Checklist for Chemicals" and appendix D, "Checklist for Compressed Gases."

- Contact the Laser Safety Offices at EH&S to report that you will no longer be using lasers at this location.

Move Preparation

- If you operate a laser, your laboratory's Laser Use Registration (LUR) must be amended to reflect your new location. Contact EH&S at 642-3073 to begin this process.

- The laser room/facility into which you are moving may be required to meet the design criteria for new laser laboratories. Please contact the Laser Safety Officer regarding this.

- If you are moving to an off-campus location and need to ship laser-related hazardous materials, contact EH&S as early as possible to make the necessary arrangements.

Packing and Transportation

- Package and transport your laser system according to the manufacturer's guidelines.

In Your New Space

- Ensure that your LUR has been amended to reflect your new location prior to starting research. Contact the Laser Safety Officer at 642-3073 to schedule an inspection prior to starting work.

- Before activating any laser system, ensure that all entrances to the laser research facility/room are posted with the appropriate laser-hazard warning sign. Contact the Laser Safety Officer to obtain the appropriate signage.

Attachment to Laboratory and Shop Move Manual

Facilities/Equipment Decontamination Clearance

EH&S has assessed this location or equipment and determined that it can be released for reuse with no restrictions. This does not provide clearance for facilities or equipment containing lead paint or asbestos components.

Building _____

Room Number _____

Facility Description _____

_____

Equipment _____

_____

Check and sign where applicable:

Biohazardous Materials. When in use, biohazardous materials were handled in accordance with UC Berkeley policy and this area has been disinfected.

❑ Cleared By: _____ or ❑ N/A: _____

Radiological Materials. UC Berkeley's EH&S Radiation Safety Team has cleared this area for unrestricted use. No regulated radioactive materials remain.

❑ Cleared By: _____ or ❑ N/A: _____

Laboratory Chemicals. Laboratory chemicals have been removed and disposed of in accordance with the UC Berkeley EH&S requirements. No regulated chemicals remain.

❑ Cleared By: _____ or ❑ N/A: _____

Controlled Substances. Laboratory chemicals have been removed and disposed of in accordance with the UC Berkeley EH&S requirements. No regulated chemicals remain.

❑ Cleared By: _____ or ❑ N/A: _____

EH&S Contact (please print):

Name: _____ *Date:* _____

Phone Number: _____