



Laboratory Decontamination and Decommissioning Policy and Procedures

**Prepared by: Office of Environmental Health
and Safety
Telephone Number 216.687.9306
December 2011**

**Plant Services Building
1802 East 25th Street
Cleveland, Ohio
44115**

1. Purpose and Scope

- 1.1 It is the policy of Cleveland State University that laboratory decommissioning take place prior to the re-certification or relocation of any laboratory space or upon vacating laboratory space or leaving either institution. Notifying in writing to EHS prior for intensions to decommission, relocate or move is needed.
- 1.2. This policy is intended to minimize research and clinical lab downtime due to moving of a laboratory, and to protect contractors, laboratory personnel, and any other personnel involved in the process from laboratory hazards.
- 1.3. This policy applies to all Cleveland State University employees and tenants occupying laboratory space within Cleveland State or Cleveland State University buildings.

2. References

2.1. Regulations

- 2.1.1. 29 CFR 1910.1450 - Occupational Exposure to Hazardous Chemicals In Laboratories
- 2.1.2. 29 CFR 1910.1030 – Occupational Exposure to Blood borne Pathogens
- 2.1.3. Biosafety in Microbiological and Biomedical Laboratories, 5th Edition
- 2.1.4. NIH Guideline for Research Involving Recombinant DNA Molecules
- 2.1.5. 42 CFR Part 72 and 73 Possession, Use and Transfer of Select Agents and Toxins
- 2.1.6. 49 CFR DOT Hazardous Materials Transportation
- 2.1.7. IATA Dangerous Transportation

2.2 CSU Policies

- 2.2.1. Chemical Hygiene Plan
- 2.2.2. Biosafety Manual
- 2.2.3. Institutional Animal Care and Use Committee
- 2.2.4. Radiation Safety Committee

3. Definitions

- 3.1. “Abandoned Laboratory”. A laboratory that is left vacant by a Lab Supervisor or Laboratory Safety Coordinator and his/her laboratory staff, and has laboratory materials (biological, chemical, radioactive), equipment or waste that has not been disposed of.

- 3.2. “Biological Materials”. All human, plant and animal pathogens; all human blood, blood components and products, tissues and body fluids; all human and animal cultured cells; all infected animals and animal tissues; all cultures/stocks of biological agents including recombinant DNA materials; and all biological toxins. Also includes biomedical waste and physically dangerous (sharp) waste.
- 3.3. “Decommissioning”. The process whereby a Lab Supervisor or Laboratory Safety Coordinator and his/her laboratory staff decontaminate/decommission existing laboratory space and make a clinical or research laboratory safe prior to vacating the space.
- 3.4. “Decontamination”. The process whereby the Lab Supervisor or Laboratory Safety Coordinator and his/her laboratory staff clean and disinfect laboratory surfaces and equipment so they are safe to handle.
- 3.5. “EHS Departmental Safety”. An employee of Environmental Health and Safety (EHS Director) assigned to serve as a point of contact for all of the laboratory’s EHS needs.
- 3.6. “Hazardous Materials”. Substances which have hazardous characteristics such as: flammable, corrosive, reactive, toxic, radioactive, poisonous, carcinogenic or infectious. In a general sense, these materials are considered hazardous because they present a potential risk to humans and/or the environment.
- 3.7. “Re-certification” A process of ensuring the continued safe operation all Cleveland State University labs when commissioned

4. Roles & Responsibilities

- 4.1. The Lab Supervisor or Laboratory Safety Coordinator is responsible for the complete decommissioning of the laboratory space prior to vacating the laboratory. In cases where an abandoned lab is identified, the department that the Lab Supervisor reported to will be responsible for the decommissioning and all costs associated with the process (including the removal of all non and hazardous wastes including radioactive and biological waste) and the recertification (requiring a environmental cleaning company to come in and clean all surfaces and equipment). If the laboratory used radioactive materials, they must contact Environmental Health and Safety’s Radiation Safety Officer for information. The Lab Supervisor or Lab Safety Coordinator is also responsible for communicating this procedure to vendors, contractors, EHS and others performing services or disposing of equipment, removing chemicals or cleaning the laboratory.
- 4.2. Environmental Health and Safety (EHS) will distribute this policy and attachments and advise Lab Supervisors/Deans/Chairs, Laboratory Safety

Coordinators and laboratory personnel on how to implement the various aspects of the policy. They will also verify that a lab has been appropriately decommissioned (cleaned, decontaminated, etc.) before a Lab Supervisor or Laboratory Safety Coordinator may leave or move his or her laboratory.

- 4.3. The Move Coordinator is the Lab Supervisor or Laboratory Safety Coordinator and is responsible for coordinating the laboratory decommissioning and move. The Lab Supervisor and Lab Safety Coordinator is the primary contact with EHS.
- 4.4. Other Personnel (Facilities, Movers, and Contractors and others) should be aware of this policy and should not handle laboratory materials, equipment or waste unless instructed to do so by Lab Supervisor and/or EHS. The Lab Supervisor or Laboratory Safety Coordinator is charged with making this policy known to the above mentioned.

5. Special Requirements

6. Applicable Locations

- 6.1. This procedure applies to all laboratories at Cleveland State University

7. Procedures and Instructions

- 7.1. Prior planning is key to a successful laboratory decommissioning and move along with close of examination the Laboratory Decontamination and Decommission Policy. Your preparation and communication with your Office of Environmental Health and Safety will be a major factor in minimizing delays, protecting your property against damage and loss, and most importantly, reducing the potential for personal injury and spills or contamination. Contact EHS (x9306) if you have any questions or need assistance.

7.2. Waste Disposal

- 7.2.1. All chemical, biological and radioactive wastes must be disposed of according to current EHS policies and procedures. EHS will use current vendors for a quote and the college in question will address such costs associated with the removals.
- 7.2.2. Any waste, including boxes and trash must not be left in corridors or left behind in the laboratory without prior arrangements. Prior arrangements for regular trash must be made with CSU Facilities with-in 15 days. Prior arrangements for other wastes can be made with EHS with regards to chemicals or certified cleaning.
- 7.2.3. Chemical waste must be labeled with hazardous waste labels regardless of whether they are labeled or not from the manufacturer.

- 7.2.4. Unopened chemicals can be offered to other labs that may be able to use them before being considered for disposal. Contact your Office of Environmental Health and Safety for consideration. Other laboratory items discretion of EHS and its removal standards (chemicals, equipment, etc.).
- 7.2.5. Any unknown chemical must be identified and labeled as hazardous waste. For chemical unknowns that cannot be identified by the Lab Supervisor, Laboratory Safety Coordinator or laboratory personnel, the laboratory may be assessed a service fee for hazardous waste analysis prior to disposal.
- 7.2.6. Dark room tanks must be drained and the contents disposed of as hazardous waste.
- 7.2.7. Empty compressed gas tanks must be returned to the distributor prior to the move.
- 7.2.8. Mercury thermometers or Mercury containing equipment must be removed from equipment and disposed of as hazardous waste.
- 7.2.9. Vacuum pumps must be drained of oil and the oil disposed of properly.
- 7.2.10. Sharps must be collected and disposed of as Infectious Waste.

7.3. Decontamination

- 7.3.1. All laboratory bench-top surfaces must be decontaminated prior to vacating the laboratory. All laboratory equipment must also be decontaminated, regardless of whether it is remaining in the laboratory, being moved to a new laboratory or being disposed.
- 7.3.2. Fume hoods must also be decontaminated by a certified contractor. Contact the Office of Environmental Health and Safety (x9306) for decontamination and certification advice. Notify EHS if there is any current or past practices that may reveal potential problems. Certain chemicals such as perchloric acid and mercury may remain on surfaces or equipment or in building systems.
- 7.3.3. Biological or Safety Cabinets, tissue culture hoods, and glove boxes that have been used with potentially infectious materials must be decontaminated by a qualified outside environmental contractor.
This equipment must also be “re-certified” after they have been moved. If you have biological or safety cabinets, tissue culture hoods, or glove boxes that are either being moved to new laboratory areas or being left behind, contact the Office of Environmental Health and Safety to discuss decontamination well in advance of the move.

- 7.3.4. An appropriate disinfectant must be utilized in cases where biological materials were in use. A disinfectant is deemed appropriate if it targets the biological materials that were in use in the laboratory. In most cases, 70% ethanol, bleach solution (1:10 made fresh), or a phenolic disinfectant should be adequate for disinfection of lab fixtures, furniture and equipment potentially contaminated with biological materials. An appropriate disinfectant should be identified and approved by EHS before measures are taken place by an environmental cleaning crew are to begin. Always contact your Office of Environmental Health and Safety (x9306) before move, relocation or decommission.
- 7.3.5. Areas that have used radioactive materials have additional decontamination requirements. Contact EHS and the Radiation Safety Officer for additional information (x9306).
- 7.3.6. A CSU decontamination record sticker must be affixed to all equipment that has been decontaminated by an environmental cleaning crew. This will allow moving personnel to safely move the equipment to the new laboratory space or equipment that needs to be discarded or removed as hazardous waste. Only equipment with this sticker will be moved.
- 7.3.7. The Lab Supervisor or Laboratory Safety Coordinator must receive complete decontamination information regarding all cleaning activities or future activities, and submit the form to the Office of Environmental Health and Safety. EHS needs all documents as decontamination and decommissioning activities are completed or beginning. This will allow EHS personnel to review the decommissioning activities, visit the decommissioned laboratory, and alert the appropriate administrative personnel that the decommissioning has been performed or begun. Upon receipt of the completed information, EHS will contact the Lab Supervisor or Laboratory Safety Coordinator to schedule a tour of the laboratory to confirm the decommissioning activities and deem the area “cleaned”. Equipment must be moved or disposed of within 15 days. If hazardous, radiation or infectious waste needs to be removed, EHS will contact their current waste hauler for removal and receive a quote for decommission process and have respected department incur such costs for removal.
- 7.3.8. All waste and trash must be removed from the laboratory following the move. Be sure to check that EVERY drawer, cabinet, etc. is empty. Ensure that no sharps or trash are left behind in cup sinks on the benches or the fume hoods. Visible contamination, dirt, dust, etc. must be cleaned and evaluated by an environmental cleaning company.
- 7.3.9. For further information regarding proper disinfection or decontamination procedures, contact your Office of Environmental Health and Safety .

7.4. Designation of New Laboratory Space

- 7.4.1. The Lab Supervisor or Laboratory Safety Coordinator must inform the Office of Environmental Health and Safety of any new laboratory space.
- 7.4.2. The Lab Supervisor is responsible for notifying all applicable CSU Committees/departments and outside agencies, as necessary, of the move to new laboratory space. Radioisotope Use must be amended and approved by Radiation Safety Officer and the Radiation Safety Committee prior to location change. Research projects approved by the Institutional Animal Care and Use Committee (IACUC) or involving radiation must have updated laboratory location information and involve committees as such. USDA Veterinary Service permits are laboratory site specific (depending on covered species), as are CDC/NRC Select Agent registration permits depending on research and facility are as needed. Contact your Office of Environmental Health and Safety and or the Animal Care Facility for additional information.
- 7.4.3. EHS must be notified the Lab Supervisor's new laboratory locations and any new information regarding the new laboratory and research/use of the space. Chemical inventories should be transferred to the new locations and EHS made aware of these transfers. Contact your Office of Environmental Health and Safety for additional information (x9306).

7.5. Packing and Moving Laboratory Materials

- 7.5.1. Laboratory personnel are responsible for collecting all packaging items needed before the move date. Carts, plastic bags, towels or other cushioning, absorbent materials, sealable plastic or plastic-lined boxes, labels (e.g. Fragile, Universal Biohazard, ID, Location, and associated hazard), sturdy tape, and spill kits should be readily accessible. Contact EHS for assistance (x9306) if spill kit supplies are needed before project (EHS has limited supplies). Any special supplies will be purchased at a cost to the department. Each container or piece of equipment must be labeled. Labels must identify the agent, hazard and necessary precautions.
- 7.5.2. The Lab Supervisor or Laboratory Safety Coordinator is responsible for establishing safety and emergency procedures for all phases of the move. Potential emergencies include material spills, fires, slips and falls, and cuts. Protective clothing and spill absorbent materials must be available during packing, moving, and unpacking.

7.5.3. Packing and Moving Laboratory Chemicals

- 7.5.3.1 In order to minimize the amount of chemicals that need to be packed and moved, new chemicals should be ordered only as necessary and in small quantities. Laboratory personnel should plan in advance to minimize the inventory of liquid volume and weight of materials being moved. In addition, reduction of active materials should be planned the week prior to the move.
- 7.5.3.2. In most cases, laboratory chemicals must be packed and or removed by an outside contractor approved by EHS. Prior to the packing and or removing, laboratory personnel are responsible for labeling each chemical container with the chemical identity. If needed, EHS will contact the current waste hauler for removal or relocation and receive a quote for the process and have respected department incur such costs for removal.
- 7.5.3.3. Compressed Gas cylinders that are to be moved must have regulators removed and caps secured prior to moving. If possible, have old tanks collected by the vendor prior to move and arrange for future tanks to be delivered to the new location.
- 7.5.3.4. Thermometers must be removed from refrigerators, water baths, and incubators prior to equipment moving. Mercury thermometers must be disposed of as hazardous waste. Contact EHS for additional information (x9306).
- 7.5.3.5. Oil must be drained from pumps, baths, and other equipment moving.

7.5.4. Packing and Moving Biological Materials

- 7.5.4.1 Biological Materials must be appropriately packed and moved by the laboratory personnel within the campus or by an EHS approved vendor if it is leaving campus. Regulated materials and biological materials include human, plant and animal pathogens; all human blood, blood components and products, tissues and body fluids; all human and animal cultured cells; all infected animals and animal tissues; all cultures/stocks of biological agents including recombinant DNA materials; and all biological toxins. Contact EHS for additional information
- 7.5.4.2. Proper Packaging consists of a primary sealed container placed within a secondary sealed, unbreakable container, with enough absorbent material in between to contain and absorb any spill. *Some examples of proper packaging include: petri dishes in a*

plastic sleeve within a plastic lined box using paper towel spacers, stabs in a sealed Tupperware container with paper towels to cushion vials, sealed tubes in a rack placed into plastic sealable container with enough paper towels to absorb any spilled contents, tissue culture dishes placed into a plastic lined dishpan or a sealable cardboard box with an absorbent. Freezers can be moved intact, provided all contents are in sealed, unbreakable containers, the freezer remains closed, and the exterior of the freezer has been decontaminated. Because shifting of contents may occur, enclose loose items in boxes, or fix in some other way to avoid breakage and spills when the freezer is reopened. Other equipment, such as fermenters, incubators, and biosafety/safety cabinets must be empty and decontaminated prior to the move. Refrigerators and other storage equipment can be moved intact at the discretion of EHS. Contact EHS for more information (x9306).

- 7.5.4.3. Labeling. Once packaged, all biological, hazardous and non-hazardous materials must be properly labeled. *Labels must include:* Name, Lab Supervisor, new location, ID of agent, safety level, telephone number for assistance in the event of any breakage, and a FRAGILE notice if applicable. If you are not sure of the biosafety level of your biological materials, or need assistance, contact the Office of Environmental Health and Safety (x9306).

7.6. Laboratory Furniture and Equipment

- 7.6.1. Furniture. The move coordinator must be informed if there is any furniture of particular concern (fragile, valuable, requires dismantling), not already mentioned. Different moving companies may have different requirements that should be ascertained in advance of the move.
- 7.6.2. Special Requirements. The move coordinator must be informed in advance of any equipment under service contract as well as equipment not under contract but requiring servicing and/or special handling.
- 7.6.3. Alarms. Laboratory personnel must disconnect alarms on freezers (if moving intact) and any other sensor alarms on or before the day of the move.
- 7.6.4. Keys and Combinations. Laboratory personnel must keep keys and combinations locks readily accessible for emergency.

8. Forms

- 8.1. Laboratory Decontamination Form and Certification Forms from an Environmental Cleaning Contractor.

8.2. Equipment Decontamination Record Stickers from an Environmental Cleaning Contractor.

8. Records Management

9.1. The Lab Supervisor or Laboratory Safety Coordinator must return the Laboratory Decontamination Forms to the Office of Environmental Health and Safety

9.2. The completed Laboratory Decontamination Certificates/Certifications/Letters will be kept on file at EHS.

- References:
- 2.1.1. 29 CFR 1910.1450 - Occupational Exposure to Hazardous Chemicals In Laboratories
 - 2.1.2. 29 CFR 1910.1030 – Occupational Exposure to Blood borne Pathogens
 - 2.1.3. Biosafety in Microbiological and Biomedical Laboratories, 5th Edition
 - 2.1.4. NIH Guideline for Research Involving Recombinant DNA Molecules
 - 2.1.5. 42 CFR Part 72 and 73 Possession, Use and Transfer of Select Agents and Toxins
 - 2.1.6. 49 CFR DOT Hazardous Materials Transportation
 - 2.1.7. IATA Dangerous Transportation