

LABORATORY DECOMMISSIONING PROGRAM

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REVISION HISTORY

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1.0 Related Legislation and Guidelines:

ANSI/ASSE Z9.11-2016 Laboratory Decommissioning standard

2.0 Related University Guidelines and Procedures

[University of Guelph – Laboratory Safety Manual](#)

[University of Guelph – Biosafety Program](#)

[University of Guelph – Radiation Safety Program](#)

3.0 Intent

This program outlines requirements for the removal of hazards from laboratory spaces when the lab is being vacated for the purposes of renovation, re-occupation by a new user, or demolition.

The purpose of this program is to prevent laboratories from being vacated without appropriate removal of equipment, hazardous materials, and waste. This prepares the spaces for safe entry and work by custodial staff, contractors, new occupants, etc.

Laboratory decommissioning includes:

- Elimination of unsafe conditions
- Proper clean-up
- Decontamination and disposal, recycling, and/or re-use of lab equipment
- Decontamination of work surfaces
- Appropriate disposal or reuse of hazardous materials
- Assurance that University policies, procedures and regulatory requirements are met

This program applies to laboratory spaces at all University of Guelph locations.

This program does not address decommissioning of associated facility infrastructure including plumbing and ventilation.

4.0 Responsibilities:

4.1 Department Chairs, Directors, Heads

- a. Verify decommissioning of the laboratory spaces within their department
- b. Coordinate decommissioning activities related to shared department laboratory spaces
- c. Coordinate correction of any deficiencies not addressed by the (PI). Should the laboratory not be appropriately decommissioned the department will be accountable for fees to complete any required decommissioning activities.

4.2 Laboratory supervisors/Principal investigators (PI)

- a. Notify Environmental Health and Safety (EHS) when they will be leaving the University or relocating their laboratory within the University
- b. Comply with regulatory requirements and University procedures related to relocating chemicals to another location and/or disposing of chemicals that are no longer needed.
- c. Appropriately decommission their laboratory space as indicated in this program, including appropriate relocation, and disposal of hazardous materials as applicable
- d. Facilitate inspection of their laboratory to finalize decommissioning

4.3 Environmental Health and Safety (EHS)

- a. Provide technical advice and recommendations to the University community on matters related to decommissioning laboratory spaces and equipment
- b. Provide guidance with planning and coordination for relocation of hazardous materials
- c. Verify laboratory spaces have been decommissioned appropriately
- d. Maintain general decommissioning documentation

5.0 Laboratory Decommissioning Procedures

Laboratory decommissioning is to include the following as applicable:

- decontamination of equipment
- disposal of hazardous waste including identification and disposal of any unknowns
- removal, disposal, or transfer to storage of any hazardous materials including research samples (with ownership of the materials transferred if applicable). Note that transfer of ownership or relocation of biohazard or nuclear substances may require notification of the applicable Health and Safety Consultant and amendment to permits as applicable.
- return of compressed gas cylinders to the vendor and/or relocated to proper storage with ownership transferred
- cleaning of bench tops and surfaces, including fume hood for removal of gross contamination by wiping clean with mild detergent and water
- cleaning fridges and freezers of old samples and/or other remaining hazard materials. Wiping related surfaces for removal of visible contamination.
- emptying of drawers, cabinets, and fume hoods to be sure that they are free of hazardous materials

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- removal of needles, razor blades and other sharps from cabinets, drawers and other surfaces and disposal into sharps containers
- removal or transfer of ownership of equipment, and supplies

Laboratory equipment that has been used with hazardous materials is to be decontaminated prior to disposal with completion of the associated [Equipment Decontamination and Decommissioning form](#).

Laboratory decommissioning procedures described below are divided into 2 distinct scenarios.

5.1 Leaving the laboratory space as the sole occupants

- a. The department is to inform [Senior Health and Safety Consultant \(Laboratory\)](#) when Lab Supervisors and their teams will be vacating a laboratory space. Laboratory decommissioning is to be completed prior to the occupants' departure.
- b. The [Senior Health and Safety Consultant \(Laboratory\)](#) is to be contacted for questions related to specific chemical disposal and to arrange for the disposal of large volumes of unwanted chemicals and/or hazardous waste at least 4 weeks prior to the departure date.
- c. Decommissioning is to be documented by the Lab Supervisor using the Laboratory Closure/Decommissioning Checklist
- d. The Laboratory Closure/Decommissioning checklist is to be submitted to the [Senior Safety Consultant \(Laboratory\)](#) weeks in advance of the departure date at which point an inspection to verify decommissioning will be scheduled. Confirmation that the laboratory decommissioning has been completed will be verified via EHS signature on the Laboratory Decommissioning form.

5.1.1 Shared spaces

If Principal Investigators are leaving the University, hazardous materials stored in shared departmental spaces are also to be disposed or their ownership transferred accordingly. This includes locations where chemicals or biologicals including research samples are stored in refrigerators or freezers remote from the laboratory (storage rooms).

5.2 Preparing laboratory spaces for renovation

- a. The department is to inform the [Senior Health and Safety Consultant \(Laboratory\)](#) in advance of laboratory renovation requiring decommissioning. Laboratory decommissioning is to be completed prior to renovations.
- b. The [Senior Safety Consultant \(Laboratory\)](#) is to be contacted at least 4 weeks prior to the beginning of renovations for questions related to:
 - specific chemical disposal,

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- arranging for the disposal of large volumes of unwanted chemicals and/or hazardous waste
 - removal and transfer of hazardous materials to temporary off-site storage.
- c. All hazardous materials shipments to off-site locations must be transported in accordance with the Transportation of Dangerous Goods regulation.
- A current inventory of hazardous materials will be required prior to packing and shipment of materials
 - The [Senior Health and Safety Consultant \(Laboratory\)](#) will provide guidance with planning for appropriate and safe shipment with coordination and involvement of the applicable Senior health and Safety Consultants.
- d. Decommissioning is to be documented by the Lab Supervisor using the Laboratory Closure/Decommissioning checklist.
- e. The Laboratory Closure/Decommissioning checklist is to be submitted to the [Senior Health and Safety Consultant \(Laboratory\)](#) 2 weeks in advance of the departure date at which point an inspection to verify decommissioning will be scheduled. Confirmation that the laboratory decommissioning has been completed will be verified via EHS signature on the Laboratory Decommissioning form.
- f. The Notice of Laboratory Decommissioning may be posted on the room door, as necessary, to identify the decommissioned status of the space to those involved in renovations.

6.0 Laboratory Closure/Decommissioning checklist

The Laboratory Closure/Decommissioning checklist is to be used when there is planned construction, renovation, reoccupation, or PI departure from individual or shared lab spaces. See Appendix A. Laboratories that were using biohazardous materials or nuclear substances will have specific decommissioning requirements. Procedures to decommission Radiation Safety or Biohazard permits must be completed prior to the final Lab Decommissioning being verified. See Radiation Safety and Biosafety program websites.

The Laboratory Closure/Decommissioning Checklist is to be submitted to The [Senior Health and Safety Consultant \(Laboratory\)](#) for verification.

The Notice of Laboratory Decommissioning may be posted on the door to identify the decommissioned status of the space if the space is to undergo renovation. See Appendix B.

7.0 Glossary of Terms

Abandoned Laboratory - A laboratory that is left vacant by the occupants, that has hazardous materials (biological, surplus chemical, radioactive), equipment and/or waste that has not been removed or transitioned to another owner.

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Hazardous Materials - Substances that have hazardous characteristics that could present a potential risk to humans and/or the environment. Hazardous materials include those that are flammable, corrosive, reactive, toxic, radioactive, carcinogenic or infectious.

Laboratory Decommissioning - An inspection/audit of a laboratory by Environmental Health & Safety (EHS) to verify that hazardous materials and non-fixed lab equipment have been disposed, removed and/or their ownership transferred, and that surfaces have been adequately cleaned to remove gross contamination, such that the space can be reused by other laboratory staff or undergo renovations.

Decontamination - Cleaning and disinfection of laboratory surfaces and equipment so they are safe to handle.

Laboratory: For the purposes of this program, a laboratory is considered to be any space where scientific research, experimentation or analysis is conducted. Computer “labs” are excluded from this definition.

Renovation - A change in the physical environment of a lab that could include the removal of walls, doors, cabinets, benches, fume hoods, etc. Repairs or replacement in-kind are considered general maintenance activities.

Laboratory Supervisors - A person who has charge of a laboratory or authority over laboratory personnel.

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Appendix A. Laboratory Closure/Decommissioning Checklist

Laboratory Closure/Decommissioning Checklist

This form is to be completed by the Laboratory Supervisor/PI when vacating their lab space permanently or to prepare for renovation. Completed forms are to be submitted to the [Senior Health and Safety Consultant \(Laboratory\)](#) to arrange for verification.

Supervisor/Principal Investigator:
Department:
Building:
Room Number:
Purpose of decommissioning: ☐ leaving the University ☐ renovation ☐ relocation within the University
Other:

While under my responsibility this space has contained the following:	Yes	No	N/A
Chemicals			
Biohazardous substances			
If yes, I confirm that I have completed the decommissioning procedures under the Biosafety program			
Radioactive materials			
If yes, I confirm that I have completed the decommissioning procedures under the Radiation Safety program			

Laboratory Decommissioning:	Yes	No	N/A
Inventory of hazardous materials in the laboratory has been updated			
Samples have been relocated/disposed of as appropriate.			
Arrangements were made with EHS for the disposal of lecture bottles of hazardous gases and potentially explosive chemicals.			

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Chemicals have been disposed of and/or relocated to another laboratory space.			
Compressed gas cylinders have been returned to the suppliers.			
Benches, drawers, cabinets have been decontaminated. No visible contamination is evident.			
Lab equipment has been decontaminated (refrigerators, freezers, incubators etc.). Equipment Decommissioning forms have been submitted to the Sr. H&S Consultant (Laboratory).			
Lab signage has been removed from the door(s) and walls.			
Fume hood surfaces have been wiped and cleaned of visible contamination.			
If the fume hood was used with volatile concentrated perchloric acid, confirm if it has been tested for the presence of perchlorates.			
Shared lab spaces: all hazardous waste has been disposed			
Shared lab spaces: all surplus chemicals have been disposed or transferred to other lab spaces with chemical inventories updated.			

Copies of completed form are to be provided to the PI/supervisor, Department and retained by EHS.

Appendix B. Laboratory Renovation and Construction Notice

Laboratory Renovation and Construction Notice	
This room has been inspected by EHS and is approved for initiation of renovation and construction	
Supervisor/PI signature	Date
Department chair/Director signature	Date
EHS representative signature	Date

Appendix C. Notice of Laboratory Decommissioning

Laboratory Decommissioning Notice	
This room has been decommissioned	
Supervisor/PI signature	Date
Department chair/Director signature	Date
EHS representative signature	Date

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Appendix D: Process Flow Diagram for Laboratory Decommissioning

