ENVIRONMENTAL HEALTH & SAFETY

UNIVERSITY *of* WASHINGTON

EH&S GUIDE FOR PRINCIPAL INVESTIGATORS

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CONTENTS

INTRODUCTION

WHY READ THIS GUIDE?

This guide is an introduction to the Environmental Health & Safety Department (EH&S) for principal investigators (PIs) who are new to the University of Washington, and it serves as a health and safety reference tool for any PI. It outlines your health and safety responsibilities and provides links to related resources. It lists requirements for grant proposals, purchases and similar actions and outlines how to plan for emergencies and disasters.

CONTACT INFORMATION

Online resources and contact information for specific issues are listed throughout this guide. Refer to the EH&S website for contact information by topic.

RESPONSIBILITIES FOR HEALTH AND SAFETY

A shared partnership exists among University leadership, faculty, researchers, laboratory staff, students, and EH&S to support a strong culture of safety; a culture in which all individuals responsibly embrace safety as a core value for long-term health and safety.

PRINCIPAL INVESTIGATOR RESPONSIBILITIES

As a PI, you are responsible for the workplace safety of laboratory personnel and for the requirements outlined in this guide. Laboratory personnel includes faculty, staff, undergraduate and graduate students (paid and unpaid), and non-UW employees conducting research activities on your behalf, which may occur inside or outside the laboratory.

You may delegate safety-related tasks to others, but you retain ultimate responsibility. These responsibilities are outlined in University of Washington Executive Order 55. Your dean, department chair or director may assume responsible party (RP) duties or assure an RP is appointed for a laboratory when there is an extended absence of the PI or RP, which may be due to sabbatical, extended remote work assignment, retirement, or illness.

The **UW Laboratories Safety Responsibility Matrix** describes the specific responsibilities for laboratory safety held by University executive leadership, college/school, department, principal investigators, lab staff, EH&S, and others.

Administrative policy statement 12.7 (APS 12.7) establishes University requirements for oversight of chemical and physical safety in research and academic environments, and outlines the roles and responsibilities of all participants.

EH&S RESPONSIBILITIES

The Environmental Health & Safety Department (EH&S) is responsible for the oversight of laboratory safety and responsible for administering and implementing the University's research and teaching safety programs, policies, and procedures. This responsibility includes:

- EH&S performs inspections of research facilities and operations, and reports findings to the appropriate unit for corrective action.

- EH&S can implement an escalation process for unresolved laboratory or unit findings and act as the authority to order immediate shutdowns for safety deficiencies posing an immediate danger to life and health.
- EH&S communicates health and safety regulations to UW employees and provides services related to health and safety.

Administrative Policy Statement 10.1 describes the full range of EH&S responsibilities for environmental health and safety at the University.

BIOLOGICAL SAFETY

EH&S is involved in research proposal reviews and approvals that involve biohazards and recombinant DNA, the use of biohazardous agents in animals and human gene transfer studies. EH&S also reviews facility design plans, provides consultation on laboratory containment and biohazardous waste, and delivers training for work with biohazardous agents, bloodborne pathogens (BBP), and select agents. For more information, see the Biological Safety webpages on the EH&S website.

BIOHAZARDOUS AGENTS

The UW Institutional Biosafety Committee's working definition of a biohazardous agent includes:

- Pathogenic agents (bacteria, rickettsia, fungi, viruses, protozoa, parasites, prions and select agents)
- Recombinant or synthetically derived nucleic acid, including those that are chemically or otherwise modified analogs of nucleotides (e.g., morpholinos), or both. The NIH defines synthetically derived nucleic acid molecules
- Recombinant DNA molecules, organisms, vectors (e.g., plasmids, viral vectors) and viruses containing recombinant DNA molecules
- Human and non-human primate blood, tissue, body fluids and cell cultures (primary or continuous)
- Plants, animals or derived waste which contain or may contain pathogenic hazards (including xenotransplantation tissue)

BIOLOGICAL USE AUTHORIZATION

If your research involves biohazardous agents, you must obtain Biological Use Authorization (BUA) from the Institutional Biosafety Committee (IBC). IBC review and approval for research involving biohazards is required by the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules, UW Administrative Policy 12.3 and the UW Biosafety Manual.

If your research involves the use of biohazards in animals or human gene transfer, Biological Use Authorization is required prior to approval by the Institutional Animal Care and Use Committee (IACUC) or the Institutional Review Board (IRB).

PIs must review BUA letters with personnel so they are aware of hazards and approved use locations. See the Biological Research Approval page for more information including application submission deadlines.

RECOMBINANT OR SYNTHETIC NUCLEIC ACIDS

The National Institutes of Health (NIH) requires Institutional Biosafety Committee review of all research involving recombinant or synthetic nucleic acids. The Biological Use Authorization (BUA) addresses the NIH Office of Biotechnology Activities' directive that each PI working with recombinant or synthetic nucleic acids must identify the section of NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules that applies to their research. There are several different levels of oversight depending on the agents and procedures. See the Biological Research Approval webpage on the EH&S website for more information.

BLOODBORNE PATHOGENS (BBP)

Employees who have a reasonably anticipated potential for exposure to bloodborne pathogens, including human blood or other potentially infectious materials (OPIM), must be included in the UW Bloodborne Pathogens (BBP) Program. PIs must do the following:

- Offer the Hepatitis B vaccine to personnel within 10 days of assignment into a job with reasonably anticipated exposure to bloodborne pathogens
- Develop a written site-specific BBP Exposure Control Plan which is reviewed at least annually and updated as necessary. PIs must also train personnel on the BBP Exposure Control Plan prior to initial start of work and then annually and ensure it is followed. A BBP Exposure Control Plan Template is available on the EH&S website.
- Ensure personnel complete the EH&S Bloodborne Pathogens (BBP) for Researchers - Online training course prior to initial assignment and every 12 months thereafter.

SELECT AGENTS AND DUAL USE RESEARCH OF CONCERN (DURC)

Select agents are biological agents and toxins that have the potential to pose a severe threat to public health and safety, to animal or plant health, or to animal or plant products. Work with select agents requires a federal security clearance and strict oversight by the Centers for Disease Control and Prevention and strict oversight, approval, and ongoing specialized training provided by EH&S. For more information, see the Select Agent Program information on the EH&S website.

The University also has a Dual Use Research of Concern (DURC) policy in place for a subset of select agents.

CLINICAL TRIALS INVOLVING HUMAN GENE TRANSFER

The National Institutes of Health (NIH) require that the UW Institutional Biosafety Committee (IBC) review and approve human gene transfer studies prior to initiation. The reviews are focused on protection of research personnel, research subjects, caregivers, and the general public. The IBC approval must precede Institutional Review Board approval granted by the University of Washington Human Subjects Division. Both are necessary prior to subject enrollment. For more information about the NIH requirements for human gene transfer, see Appendix M of the NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules.

BIOSAFETY TRAINING

The EH&S Biosafety Training - Online course is required every three years for PIs whose research includes the use of biohazardous agents. It is also required for students, fellows, laboratory

managers, research personnel and any other personnel who have the potential for exposure to biohazardous agents.

The EH&S Bloodborne Pathogens (BBP) for Researchers - Online training course is required annually for all personnel who have the potential for exposure to bloodborne pathogens, human source materials, and other potentially infectious material.

BIOSAFETY CABINETS

Contact EH&S if you plan to purchase or relocate a biological safety cabinet, or bring a unit to the UW from another university. EH&S will help you select the appropriate cabinet for your research, evaluate the space you are considering, and determine if necessary ventilation and utilities are available.

Biosafety cabinets are certified annually by EH&S. If a biosafety cabinet fails the certification, it may not be used until repaired, unless specifically authorized by an EH&S biosafety officer. Biosafety cabinets may not be repaired or moved until decontaminated by EH&S. For more information, visit the Biological Safety Cabinets webpage on the EH&S website.

BOATING SAFETY

The Boating Safety Program oversees the safe use of water vessels of all sizes and classes by faculty, personnel, students and approved volunteers at the University of Washington who are using these vessels as required by their employment or education. The purpose of the Boating Safety Program is to:

- Ensure the personal safety of boat operators, crewmembers and occupants
- Maintain compliance with federal, state and local regulations
- Ensure environmental stewardship

There are federal, state, local, and University requirements for safely operating boats that apply to both motorized and non-motorized vessels. The requirements are included in the UW Boating Safety Manual. The UW Boating Safety Program is administered by the EH&S boating safety program manager and all vessels owned and operated by the UW fall under the program's purview.

CHEMICAL SAFETY

If you use hazardous chemicals in your laboratory, you must have the following documents, appointments and practices to meet the minimum regulatory requirements:

CHEMICAL HYGIENE PLAN

If you use hazardous chemicals in your laboratory, state law requires that you have a Chemical Hygiene Plan that documents safe use and management of chemicals in your laboratory. The UW Laboratory Safety Manual fulfills most of this requirement. However, you must assess your actual procedures for the hazards they pose and add your laboratory-specific details to the plan, including floor plans and standard operating procedures (SOPs).

More guidance on SOPs is provided in the Standard Operating Procedures section below.

CHEMICAL HYGIENE OFFICER

Each laboratory must have a designated Chemical Hygiene Officer who is knowledgeable about the laboratory's procedures, is actively involved or observant of those procedures performed, and has the authority to enforce correct procedures. In research laboratories, the Chemical Hygiene Officer is generally the PI. If the PI has other commitments that prevent them from having complete knowledge of the laboratory's day-to-day activities, the PI may assign another person to be the laboratory's Chemical Hygiene Officer; however, the PI is still considered the responsible party for the laboratory.

For more information, see Section 1C: Laboratory Responsibilities of the UW Laboratory Safety Manual.

CHEMICAL INVENTORY (MYCHEM)

The University of Washington has MyChem, an online chemical inventory system for you to record the identity, location and amount of chemicals in your laboratory. It is also a central library for material/safety data sheets (MSDS/SDSs).

You will need to register the first time you setup your inventory location. After registering, you can add and remove personnel so they have access to your inventory locations.

MyChem inventories must be updated annually and after major changes in inventory. Contact information must also be kept current in case of emergency.

CAUTION SIGN

Laboratories, shops and maker spaces where hazardous materials are used or stored are required to post an up-to-date caution sign at the entrance. This sign is intended to alert emergency responders and visitors of potential hazards and precautions for entry.

EH&S installs the sign holder. Occupants replace signs as needed by updating their MyChem inventory and using the tool available on the MyChem menu to print a new sign.

HAZARD SIGNAGE

Hazard warning signs identifying health and safety hazards in the laboratory beyond those identified in the lab's caution sign may be required based on the type of hazard present. Examples of hazards that may require additional signage include biohazards, high voltage equipment, lasers, lead storage, magnetic fields, and radioactive materials.

ACCESS TO MSDS/SDS

All laboratory personnel must have access to hazard information, usually in the form of MSDS/SDSs, for the chemicals they use. Chemical inventories can be printed from MyChem to view hazard information. The chemicals listed in a MyChem inventory are directly linked to their online MSDS/SDS. Anyone with a UW NetID can access the entire library of MSDS/SDSs in MyChem even if they do not have access to a specific lab's chemical inventory.

ACCESS TO SAFETY EQUIPMENT

Make sure you and all laboratory personnel know where the emergency washing equipment is located and how to use it in an emergency.

Refer to Section 4 of the UW Laboratory Safety Manual for information on emergency washing equipment. EH&S can evaluate the need for emergency washing equipment in laboratories UW facilities and assist with retrofit installations through the Capital Safety Program.

PERSONAL PROTECTIVE EQUIPMENT (PPE)

The PI/Responsible Party is responsible for assessing all worksites for hazards and identifying the PPE needs for all employees, students and visitors who may be potentially exposed to those hazards. Supplies of minimum PPE required for routine work must be available to all laboratory personnel.

Eliminate, substitute, or design out exposure to hazards or hazardous operations by reducing exposure through controls such as engineering, administrative, and PPE, if possible. If not possible or feasible, the type of hazard and the engineering or administrative controls in place will determine what PPE is needed.

Laboratories should refer to the Guidelines for Personal Protective Equipment (PPE) and the Laboratory Personal Protective Equipment (PPE) Hazard Assessment Guide to determine the appropriate PPE for laboratory personnel.

STANDARD OPERATING PROCEDURES (SOP)

If you operate a chemical laboratory as defined in Washington Administrative Code 296-828, you must have standard operating procedures (SOPs) that describe the safety measures you require when using chemicals. Please see Section 6 of the UW Laboratory Safety Manual for more information about SOPs.

EH&S provides online resources, such as chemical SOP templates and SOP Required Elements Checklist for your reference.

HAZARDOUS WASTE MANAGEMENT PLAN

Refer to Section 3 of the Laboratory Safety Manual to understand your responsibilities for managing hazardous chemical waste, including hazardous waste accumulation rules and labeling waste containers.

EH&S provides hazardous chemical waste disposal for known chemicals. Information on chemical treatment and recycling can be found on the EH&S website.

DESIGNING/REMODELING A LABORATORY

If you are constructing a new laboratory or modifying an existing one, refer to the EH&S Laboratory Safety Design Guide, which outlines requirements and recommendations for new and remodeled laboratories.

At most locations, UW Facilities and/or Engineering Services must be hired for alterations of laboratory and building infrastructure, especially projects that affect electrical systems, plumbing or air balancing.

New fume hoods and biosafety cabinets must be certified by EH&S before use. Fume hoods and biosafety cabinets must be chosen from the lists of approved equipment on the EH&S website.

DIVING SAFETY

If your research involves scuba diving, it must adhere to the American Academy of Underwater Sciences Standards. All research diving and divers must be cleared by the diving safety officer and adhere to the standards outlined in the Diving Safety Manual.

EMERGENCY PREPAREDNESS

Be prepared for emergencies, including natural disasters, utility failures and active threats. In particular, western Washington is in an earthquake zone. Earthquakes may cause power outages, significant damage to buildings, and physical harm.

To be prepared for emergencies, PIs should complete the Emergency Information page in the UW Laboratory Safety Manual and review it, along with other response procedures, with laboratory personnel. Review the resources listed on the EH&S webpage Building Emergency Procedures and Resources for additional information. Be ready for all types of emergencies to protect your personnel and your research.

LABORATORY

Prepare your laboratory and personnel for emergencies by doing the following:

- Post emergency contact information and a floor plan that includes safety equipment and evacuation routes.
- Post the Exposure Response Poster and the Spill Response Poster in all laboratory areas so you can be prepared to respond in the event of an accident, spill or exposure.
- Review Section 9 of the Laboratory Safety Manual: Emergency Preparedness and Response. It outlines how to prepare for and respond to emergencies such as spills, fires, earthquakes, utility outages, gas leaks, unknown odors, and laboratory floods. The manual includes information on chemical spill kit contents, first aid kits, eye washes, safety showers and more.
- Make sure your chemical SOPs include chemical spill and exposure response procedures specific to the chemicals and processes in your laboratory.
- If your research involves radiation, see section 1 of the Radiation Safety Manual: Emergencies Involving Radiation for detailed response procedures for spills, injuries, and contamination involving radiation.
- If your research involves biohazards, see Section 6 of the Biosafety Manual for emergency preparedness and response procedures, including biohazardous spill response.
- Maintain a current chemical inventory and emergency contact information in MyChem.
- Train all of your personnel on every applicable procedure outlined above.
- Plan ahead to protect your research in the event of a disaster that disrupts basic services or damages buildings such that they are unsafe for reentry. EH&S has a Guide to Business Continuity and Recovery Planning for Laboratories and Research Spaces to supplement your existing business continuity plans. It includes a checklist and is intended to assist faculty,

personnel, laboratories and research facilities in maintaining research continuity consistent with their own unique needs and circumstances.

DEPARTMENT

Accident Prevention Plans lay the groundwork for preventing accidents and emergencies. Check with your department administrator to learn more about your department's Accident Prevention Plan.

Fire Safety and Evacuation Plans are developed at the building or department level and contain general planning guidelines for emergencies and evacuation procedures. Ask your administrator for your copy. Train all laboratory personnel on emergency procedures, evacuation routes and evacuation assembly points.

UNIVERSITY

UW Emergency Management develops and implements institution-wide programs and projects for disaster planning, training, mitigation, response, prevention, business continuity and recovery.

EXPOSURE RESPONSE AND ACCIDENT REPORTING

For biological, chemical or radiological exposures, follow the instructions on the Exposure Response Poster.

Report all work-related injuries, illnesses, and near misses using the UW Online Accident Reporting System (OARS) within 24 hours of the incident. In the case of a serious or fatal accident or hospitalization, notify EH&S as soon as possible after obtaining emergency care.

- Call 9-1-1 for emergencies.
- During business hours, call EH&S at 206.543.7262.
- Outside of business hours, at all UW locations, call the UW Police Department Dispatch at 206.685.8973 who will contact an EH&S on-call personnel.

FIELD OPERATIONS SAFETY

EH&S is committed to supporting a safe and healthful environment for all individuals associated with field operations, including students, faculty, staff, and approved volunteers by providing guidelines and resources to lead safe, successful research trips.

There are federal, state, local, and University requirements that need to be observed for any type of field operations you may be conducting. These requirements are detailed in the **UW Field Operations Safety Manual** and in other safety resources on the Field Operations Safety webpage.

MOVING INTO OR OUT OF A LABORATORY

See Appendix E of the Laboratory Safety Manual for a checklist of health and safety requirements for starting up or moving into a new laboratory. Use the checklist as early as possible; some items should be completed weeks or even months in advance of your move. The checklist includes the

Notice of Laboratory Moveout Form that must be filled out, signed, and posted on the door before you leave. Be sure to clean and decontaminate all equipment and instrumentation being moved or sent to UW Surplus.

If biohazardous agents are being moved to a different location, including a new room in the same area, submit a BUA Change Application to update your Biological Use Authorization Letter.

RADIATION SAFETY

The Washington State Department of Health issues a Broad License and a radiation producing device registration to the University of Washington for the use of radioactive materials and all radiation producing devices. EH&S ensures compliance with the license conditions and can revoke authorizations if conditions are not met.

RADIOACTIVE MATERIAL USE AUTHORIZATION

Principal Investigators need an authorization to use radioactive materials. To request an application packet, contact EH&S's Radiation Safety Team at radsaf@uw.edu or 206.543.0463.

RADIATION SAFETY TRAINING

Initial radiation safety training is required for all personnel using radioactive materials at the UW. A written exam must be successfully completed to satisfy the training requirements.

RADIOACTIVE MATERIAL MANAGEMENT

Regulations and procedures for the handling, storage and disposal of radioactive materials and sealed radioactive sources are available in the UW Radiation Safety Manual.

RADIATION PRODUCING DEVICES

All radiation producing devices (RPD) are regulated by the Washington State Department of Health and must be registered with the state through the EH&S's Radiation Safety office prior to use of the devices. The registration of RPD shall be accompanied by a fee equal to the appropriate facility fee and the category of use. Refer to Tables A and B in WAC 246-254-053 for fee information.

If you own a radiation producing device, such as an X-ray fluorescence (XRF), X-ray diffraction (XRD), dental radiography, veterinary radiography, accelerator, X-ray irradiator, electron microscope, medical fluoroscopy, radiography and/or any other type of radiation producing device, please contact EH&S at 206.543.0463 or radsaf@uw.edu to set up your RPD registration and payment method.

Additionally, PIs must ensure that all personnel under their supervision receive general radiation safety training and specific hands-on training for each radiation producing device. Visit the Radiation Producing Devices webpage on the EH&S website for more information.

NON-IONIZING RADIATION

EH&S has oversight responsibility for the use of laser and other types of non-ionizing radiation on campus to ensure these hazards are adequately controlled. The are available on the EH&S website.

The services provided by EH&S include review of facility design plans, hazard assessments, consultation on laser control measures and training. Refer to the Laser Safety Manual on the Laser Safety webpage and the Non-Ionizing Radiation Safety Manual on the Non-Ionizing Radiation Safety webpage on the EH&S website for more information.

If your research involves a laser, the PI has the following responsibilities:

- Register all Class 3B and Class 4 lasers, regardless of whether they are procured, loaned, fabricated, removed, or disposed of at the UW. Update the registration as needed.
- Ensure that all personnel/users receive both the EH&S Laser Worker Safety Training and specific laser system training prior to initial work with a laser.
- Enforce all laser safety requirements described in the Laser Safety Manual, with particular emphasis on facility design (see Laboratory Safety Design Guide), laser protective eyewear, and laser safety procedures, especially for beam alignment (follow the Laser Alignment Guidelines).

If your research involves magnetic field, ultraviolet, radiofrequency, and/or microwaves, the PI has the following responsibilities:

- Notify EH&S at 206.543.0463 or radsaf@uw.edu of the potential non-ionizing radiation hazards in the laboratory. Non-ionizing radiation source examples include:
    - Nuclear magnetic resonance (NMR) spectrometers
    - Magnetic Resonance Imaging (MRI)
    - UV transilluminator, crosslinker
    - UV germicidal lamps in biosafety cabinets, dental curing lights
    - RF generating devices (e.g., radio transmitters, wireless system transmitting signal at RF and MW frequencies, etc.)
- Ensure that all personnel are trained and they comply with all safety requirements.
- Provide engineering and administrative controls that will protect personnel from overexposure.
- Provide appropriate personal protective equipment (PPE) to employees, visitors, and subcontractors.
- Ensure that all maintenance and repair work is performed in a safe manner only by qualified, trained individuals.

RECORDKEEPING

Health and safety recordkeeping requirements are summarized in the UW General Records Retention Schedule. See also the following guidance as applicable:

- Biosafety Manual Appendix D
- Laboratory Safety Manual Section 8: Recordkeeping
- Radiation Survey Records
- Radiation Instrument Calibration Records

RESEARCH GRANT PROPOSALS

Many research grants require institutional approval or periodic renewals prior to submittal or funding. In some cases, research cannot start until facilities, processes, and materials are reviewed and approved. EH&S administers several approval processes and should be contacted early to meet deadlines and avoid delays. Visit the Office of Research website for more information on grant review and administration.

The list of pre-approvals or requirements includes:

- Biological Use Authorization
- Animal Use Project Review
- Clinical Trials Involving Human Gene Transfer
- Select Agent Registration

RESEARCH OCCUPATIONAL HEALTH

OCCUPATIONAL HEALTH REVIEWS

All animal protocols and protocols involving biohazards are evaluated to determine occupational health risks and mitigation, as well as medical surveillance and vaccination requirements for work with hazardous agents. This information is communicated to PIs in an Occupational Health Recommendations document and/or Biological Use Authorization issued by EH&S. PIs must review the information with personnel and make it available in the workplace. In addition, PIs must offer specified vaccinations and medical surveillance to personnel. The UW Employee Health Center provides these clinical services for UW employees who do not work in the medical centers.

ANIMAL USE MEDICAL SCREENING (AUMS)

Individuals who have contact with animals or conduct activities in animal care and use environments must participate in the Animal Use Medical Screening (AUMS) Program. Participation in the AUMS Program is required prior to approval from the Institutional Animal Care and Use Committee to work in the laboratory animal research environment.

SERVICES PROVIDED BY EH&S

EH&S offers training, consultation, and information regarding laboratory safety. The EH&S website has a variety of safety information and resources. EH&S provides resources and guidance for researchers to stay safe and compliant with local, state, and federal regulations and policies at all UW campuses and in most UW owned or leased facilities. However, specific policies and procedures may vary by location.

EDUCATION AND OUTREACH

EH&S provides classroom and online courses available on the EH&S Training webpage. To receive regular updates about safety information and resources at the UW, subscribe to the EH&S

newsletter. Visit the Research & Lab Safety webpages on the EH&S website for a variety of other resources.

AUDITS, SURVEYS AND INSPECTIONS

EH&S conducts routine audits, surveys, and inspections of laboratory and research spaces for laboratory safety, fire safety, radiation safety, physical safety and Biological Use Authorizations.

The Laboratory Inspection Checklist (which is also the self-audit checklist) is in Appendix E of the Laboratory Safety Manual.

Biosafety laboratory inspection checklists are available online at the Biological Research Safety webpage on the EH&S website.

CONSULTATION

EH&S provides consultation regarding laboratory safety, including issues such as ventilation, exposure control, chemical management, and hazardous waste management.

PREVENTIVE HEALTHCARE SERVICES

The UW Employee Health Center provides clinical preventive services and post-exposure case management for specific employee groups with occupational risks. As with all health and safety issues, PIs have the ultimate responsibility for ensuring research personnel receive required preventive health care services and have information about post-exposure case management services.

RECHARGED SERVICES

Some specialized EH&S services are funded by direct recharging to research budgets, including, but not limited to:

- Radioactive waste disposal and radiation instrument calibration
- Biosafety cabinet decontamination and certification
- Contract costs associated with hazardous material spills or improper waste disposal
- Analysis of unknown chemicals
- De-valving of empty compressed gas cylinders
- Stabilization/deactivation of unstable chemicals and chemicals not allowed to be shipped
- First Aid Training and Certification
- Medical surveillance including labs tests or vaccinations

LIAISON WITH REGULATORY AGENCIES

EH&S is the UW liaison with government agencies regulating environmental, research safety, and occupational health and safety issues. Refer to UW APS 10.2 for more information. If a regulatory agency inspector arrives to initiate an inspection, contact EH&S at 206.543.7262 to ensure proper notifications and to assist with the inspection.

SHIPPING HAZARDOUS MATERIALS

Hazardous materials include, but are not limited to: Hazardous chemicals, infectious substances, radioactive materials, compressed gases, dry ice, liquid nitrogen, lithium batteries, aerosol cans and pressurized items.

Training and certification are required to ship hazardous materials via land, air, or sea. There are prescriptive requirements for packaging and labeling of hazardous materials and for the associated documentation used in the event of an emergency. Training, certification, advice and packing materials are available through EH&S. Radioactive material is shipped by EH&S only. See the Shipping Hazardous Materials webpage on the EH&S website for more information.

Shipments may also be subject to Import/Export requirements. Information on these requirements and contact information can be found on the UW Office of Sponsored Program website. EH&S must notify the U.S. Department of Homeland Security before you ship chemicals of interest.

SPACE USE AND EQUIPMENT AUTHORIZATIONS

New fume hoods and biosafety cabinets must be tested and certified by EH&S before use. See Section 2.C of the Laboratory Safety Manual for more information.

Contact the EH&S Building and Fire Safety team at 206.685.0341 if you plan to work with highly toxic, flammable or reactive chemicals. Fire department regulations limit the quantity of these types of chemicals and/or require their storage and/or use to occur in a space designated for hazardous occupancy. These spaces may not be readily available in some UW research facilities.

TRAINING

As the PI, you are responsible for ensuring that all your personnel are trained on the hazards they will encounter while working for you. EH&S provides classroom and online courses that address various types of hazards and regulatory requirements. Some courses are required and others are recommended. Nearly all courses are provided at no cost.

EH&S TRAINING WEBPAGE

Visit the EH&S Training page to see a list of current courses, register for classroom courses and complete online courses.

Use the Training Course Selection Guides to find courses that address job-specific hazards.

EH&S GENERAL LABORATORY TRAINING

The Safety Training for Laboratory Personnel matrix provides guidance on required and recommended training for laboratory personnel, including PIs, lab supervisors, research personnel, graduate and undergraduate students. PIs are expected to complete all of the training courses that are required to be completed by any laboratory personnel, including graduate and undergraduate students (paid and unpaid) working in their lab(s).

The UW Laboratory Safety Manual outlines training required for you and your laboratory personnel, as well as other courses offered by EH&S.

LABORATORY-SPECIFIC TRAINING

In addition to general courses taught by EH&S, all laboratory personnel are required to have laboratory-specific training on the hazards they may encounter while working for you. This training is usually conducted by a PI, lab manager or chemical hygiene officer (CHO) and should also include training on your department's Accident Prevention Plan and your building or department's Fire Safety and Evacuation Plan.

Laboratory-specific training includes standard operating procedures (SOPs) for all hazardous materials and hazardous activities in the laboratory.

Training checklists are provided in Appendix C of the UW Laboratory Safety Manual.

GRADUATE STUDENT SAFETY SEMINAR

At the beginning of each academic year, EH&S offers a safety seminar for new graduate students working in laboratories. New graduate students who will conduct research or teach in laboratories should attend. EH&S will send out registration information to department administrators prior to the start of autumn quarter.