



**Academic Laboratory and Research Safety Policy**

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**Revision 1**

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This policy regarding safety culture in laboratory and research areas is issued jointly by the [Department of Environment, Health & Safety](#) (EHS) and the [University of Michigan Office of Research Ethics & Compliance](#) (UMOR), in accordance with SPG 605.01 Safety, Health & Environmental Policy, with direction and endorsement by the Executive Vice President & Chief Financial Officer (EVP/CFO) and the Vice President for Research (VPR). The document was prepared by the Research Safety Policy committee consisting of faculty, staff and students and was reviewed by the Laboratory and Research Safety Committee, both appointed by the VP for Research. The policy applies to all faculty, staff, students, and other employees in university laboratories or when conducting university related active laboratory or field research or activities.

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## SUMMARY

The University of Michigan (U-M) is committed to:

- Promoting a culture of safety among faculty, staff, students, and visitors.
- Providing a safe and healthy place to work, study, live, or visit.
- Protecting the natural environment.
- Complying with all applicable workplace safety, health, and environmental rules and regulations.

[Standard Practice Guide 605.01 Safety, Health and Environmental Policy](#) identifies the general responsibilities that various University groups have toward promoting a safe and legally compliant culture. The University academic, research, clinical, and operations units will assess the safety and environmental impact of lab and research projects and will implement strategies to reduce the risk. University units with specialized health and safety requirements for their operations, based upon federal, state, or other organization rules, must develop specific policies and procedures that are consistent with SPG requirements and external legal obligations.

All faculty, staff, other employees, and students must be aware of the responsibilities outlined below and adhere to them while in University laboratories or when conducting University research regardless of location.

A culture of safety is a shared responsibility. In a vibrant safety culture, everyone accepts responsibility for the wellbeing of themselves as well as those around them; allowing everyone to go home at the end of the day as healthy as when they arrived. To fulfill this commitment all members of the University research community have the following general responsibilities. General role specific responsibilities for members of the U-M research community are outlined in Appendices I and II. An individual's particular role in a research setting may vary and certain bullets may not apply in their assigned role.

## GENERAL RESPONSIBILITIES

### **All faculty, staff, other employees and students must:**

- Adhere to the highest standards for the safe operation of facilities and the protection of our environment, our employees, students, and visitors, and the people of the communities in which we work. This includes all department/division/laboratory/school/college (unit) rules and precautions about working alone, lab work environment, time at work, and use of personal protective equipment (PPE).
- Continuously improve safety practices in light of advances in technology and new understandings in safety, health, and environmental science.
- Receive and understand safety training appropriate to their level of activity in the laboratory. For anyone working in research this includes the EHS Laboratory Safety Training Course and any additional training programs identified and provided by EHS, UMOR, or Unit for Laboratory Animal Medicine (ULAM) specific to actions being performed or materials being handled.
- Report issues or raise questions to their supervisor, professor, EHS, or the U-M Division of Public Safety & Security (DPSS) so that action can be taken to prevent or correct safety concerns. Anonymous reporting may be made through the University Compliance Hotline ([www.compliancehotline.umich.edu](http://www.compliancehotline.umich.edu)) at 1-866-990-0111. Local reporting is encouraged so matters can be resolved more quickly.
- Take responsibility for personal safety as well as the safety of others in the work area. Notify everyone in the immediate vicinity of hazardous situations or operations and follow all alarms, warnings, and direction from emergency management staff.

### **Anyone in a management, supervisory, or mentorship role:**

- Assume responsibility for the safety of those under their supervision or oversight.
- Take all appropriate steps to make everyone within their area, including students and visitors, aware of potential hazards and proper management of the risks, including providing training and advising on use of proper equipment when conducting activities within the area both safely and meeting environmental compliance.
- Take all appropriate steps to ensure students and visitors comply with applicable safety requirements.
- Encourage anyone within their area to report problems. Protect those who report concerns from retaliation.

- Investigate and address reported issues in a timely manner.
- Implement corrective and preventive actions in a timely manner as directed.
- Serve as a role model and set a positive example for safety by following established safe work practices and implementing corrective actions brought to their attention.
- Stop an operation under their supervision if it poses an imminent threat to people in the area, the environment, or facilities.
- Report to higher administration continued failure of individuals to adhere to safety or regulatory requirements.

## REPORTING AND RESOLVING HEALTH AND SAFETY ISSUES IN RESEARCH

### **Issue Identification and Resolution**

Anyone, including outside inspectors, may identify a safety or environmental concern within a laboratory or research activity.

**Emergency Situation:** In an **emergency situation**, defined as an injury requiring medical attention, fatality, environmental release, or fire, the first call must be to DPSS (dial 911 from any U-M phone or on a personal cell phone and identify you are calling from a U-M facility), who will dispatch the appropriate responders including police, fire, medical, or EHS. The emergency responders will contain and control the immediate situation and make the area safe for re-occupancy or make recommendations for any long term follow up that may be necessary. EHS and DPSS will determine if there are immediate reporting requirements to federal or state agencies, and will notify the appropriate executive officers of the incident. The laboratory director will follow their unit established reporting requirements.

**Non-Emergency Situation:** For any **non-emergency situation**, the concern should be reported to the laboratory director who will in turn alert EHS to the matter by completing the [EHS Incident & Near Miss](#) form; however anyone has the option of contacting EHS directly at 647-1143 or through DPSS after hours. EHS staff will work with the laboratory to investigate the issue and identify corrective measures. Resolving the issue is the responsibility of the laboratory in conjunction with their Unit. The concept is to resolve the matter quickly and within the unit most directly affected; however matters may require escalation up to the chair, unit safety committee, facility manager, or up to the dean's office for assistance. If the issue cannot be resolved by the unit, the dean can raise the issue to the executive officer level for assistance. EHS will report issues or raise questions to the appropriate administrative authority so that action can be taken to prevent or correct safety concerns. They will issue a notice for correction, with a time line, when serious safety non-compliance is identified. EHS will escalate the matter to higher administrative levels when corrections are not accomplished in a timely manner, or when there is repeated failure to correct less serious non-compliance or safety problems. EHS and UMOR will work with all levels of the organization to help resolve the safety or environmental issue.

**Near Miss:** Any time there is a near miss in a laboratory setting there is an opportunity to learn and help prevent future incidents. The laboratory director must complete and submit an [EHS Incident & Near Miss](#) form in order to help continually improve the safety culture. The information provided will be used by the unit safety committee and EHS to help improve safety systems and training opportunities – it will not be used to take action against specific individuals.

### **Ability to Suspend Work**

Any faculty, staff, student or visitor working in a research or academic laboratory setting has the ability to suspend their work if they believe there is a safety or environmental issue to deal with. The issue must be reported immediately to the laboratory director or their delegate so that the issue can be quickly resolved and work can continue.

### **Authority to Stop Work**

If an issue presents an immediate danger to personnel, visitors, users, contractors, the public, or the environment, faculty and staff are empowered and obligated to stop that activity. This authority is referred to as “stop-work authority.” Individuals who exercise “stop-work authority” are also obligated to immediately report this action to

their laboratory director, department chair, and EHS. After an individual has stopped work, it may not resume until the laboratory director and EHS has verified that appropriate hazard control measures are in place.

In situations of serious or continuing non-compliance with or violations of policies, rules or regulations pertaining to laboratory and research safety, the VPR, EVP/CFO, deans, and designated research oversight committees reserve the right to issue a “stop-work authority” order to a laboratory or research program until the issue is satisfactorily resolved. If there is a dispute regarding the severity of the matter and need to stop work, the Executive Director of EHS is the final authority.

### **Imminent hazard situation**

The Executive Director of EHS, or designee, may issue an immediate Stop Work Order to the appropriate administrative authority in an imminent hazard situation that may cause death, serious injury, or significant harm to the environment if not immediately corrected. The Order must be respected and adhered to by the faculty, staff, students, and guests engaged in the unsafe situation; failure to do so will incur unit-driven sanctions for the noncompliant individual(s). The Order may not be lifted until the concern(s) can be properly addressed.

### **Final Reporting/Closeout**

During the correction of safety or environmental issues the laboratory director is responsible for the process, working with EHS, UMOR and other unit individuals. Following completion of the actions the laboratory director must notify EHS of the corrective action completed. EHS, working with UMOR, will determine if reporting to federal or state agencies is necessary and notify appropriate executive officers prior to filing the reports. EHS will then compile information regarding the issue and resolution, and reports to the Laboratory and Research Safety Committee, who will in turn determine the need to raise any issues/concerns to the executive officers.

Under federal and state laws government agencies do have the authority to levy fines against the unit or individuals within the unit for failure to follow appropriate laws and regulations. Unless there are extenuating circumstances agreed to by the executive officers on a case by case basis, the unit responsible for the research will be responsible for paying the fines if they have not been following established precautions or clearly stated procedures.

## REFERENCES

- [SPG 605.01 Safety, Health and Environmental Policy](#)
- [SPG 601.24 U-M Business and Finance Authority Delegations](#)
- [SPG 303.3 Policy Statement on the Integrity of Scholarship and Procedures for Investigating Allegations of Misconduct in the Pursuit of Scholarship and Research](#)
- [UM Office of Research Ethics and Compliance](#)
- [UM Health System Quality and Safety](#)
- [UM Department of Environment, Health & Safety](#)

## APPENDICES

- I. Role Specific Responsibilities for Individuals in Laboratory or Research Settings
- II. Role Specific Responsibilities for Individuals and Groups in Administrative Roles

## APPENDIX I: ROLE SPECIFIC RESPONSIBILITIES FOR INDIVIDUALS IN LABORATORY OR RESEARCH SETTINGS

### **Graduate Student Research Assistants/Trainees**

- Take initiative to engage in safety conversations with lab supervisor and EHS staff.
- Report any miss-steps in laboratory safety directly to the laboratory director for resolution and correction.
- Be professional, assertive, proactive and equitable when evaluating and implementing safety practices.

### **Post-Doctoral Trainee/Fellow**

- Take initiative to engage in safety conversations with lab supervisor and EHS staff.
- Report any miss-steps in laboratory safety directly to the laboratory director for resolution and correction.
- Be professional, assertive, proactive and equitable when evaluating and implementing safety practices.
- Oversee the safety of members of the research or academic groups that the postdoc is mentoring.
- Ensure that compliant safety practices are observed in all labs where students and trainees do collaborative experiments and share resources.
- Reinforce the lab safety culture established by the laboratory director for the entire laboratory. Contribute in a supporting role (not primary) to assist the laboratory director's responsibilities of record keeping regarding training requirements, identification and communication of potential hazards and emergency procedures, and oversight of the use of appropriate lab clothing and protective equipment.
- Engage in frequent communication across the entire lab group to be certain there is a common understanding regarding regulations, compliance, policies and best practices so that proactive considerations can be addressed with the laboratory director. Postdocs who are involved in day-to-day management of lab operations and other lab-specific responsibilities must also assume lab manager responsibilities listed below.

### **Laboratory Director (Faculty/Lab Manager/Supervisor)**

- Oversee the safety of all members of the research group, as well as individuals visiting the lab, and ensure that best practices are observed. The laboratory director must be vigilant to ensure that compliant safety practices are observed in all labs where students and trainees do collaborative experiments and share resources.
- Receive reports of and respond to any miss-steps in laboratory safety and ensure resolution and correction.
- Notify both EHS and the unit safety committee of potential safety hazards, exposures, accidents, injuries, illnesses, spills, releases, near misses, or other regulatory and environmental issues.
- Identify potential hazards, emergency procedures, and proper protective equipment; ensuring its use as common practice.
- Ensure that accurate records are kept to validate completion of appropriate training.
- Set the tone for health and safety practices in the classroom and laboratory, and report to supervisors or instructors any potentially unsafe practices or serious hazards.
- Engage in frequent communication with the entire lab group to be certain there is a common understanding of regulations, compliance, policies, and best practices.
- Communicate on behalf of the laboratory with directors, deans, and compliance officers within the University about laboratory safety policies and practices.
- Respond in a timely manner to all reports of failures of individuals to adhere to safety or regulatory requirements.
- In cases of clinical research, the clinical lab setting brings a special set of challenges and the faculty/lab director must ensure that special safety needs of clinical research employees and subjects are appropriately addressed. In addition to this Policy, Clinical Research Faculty must also adhere to U-M Health System (UMHS) policies and procedures.

### **Department Chair**

- Ensure timely actions are taken by the laboratory to protect personnel and facilities and to remain in compliance with all applicable codes and regulations.
- Set a positive example for safety by modeling established safe work practices, by implementing corrective actions brought to their attention by a laboratory, EHS, or a safety oversight committee, and by having an

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unbiased consideration for all safety questions or concerns raised by those working in a laboratory.

- Ensure all new research and laboratory processes are evaluated and approved for possible safety and environmental issues in order to mitigate those issues before initiation.
- Adhere to the EHS procedures for the commissioning ([Laboratory Commissioning Guideline](#)) or decommissioning ([Laboratory Decommissioning Guideline](#)) of laboratory spaces to ensure safety and environmental measures are in place, or to ensure hazards are removed when an operation ends.
- Establish and promote department safety mechanisms as warranted by the size or complexity of the department, and assign unit level safety coordinators with authority to correct or elevate safety matters to help drive safety through the organization, while addressing concerns quickly and effectively.
- Respond in a timely manner to all reports of failures of individuals to adhere to safety and regulatory requirements.

## APPENDIX II: ROLE SPECIFIC RESPONSIBILITIES FOR INDIVIDUALS AND GROUPS IN ADMINISTRATIVE ROLES

### **Facility Managers/Department Managers/Key Administrators/Chief Department**

#### **Administrators**

- Maintain an understanding of requirements for laboratory and research safety.
- Complete training recommended by EHS for general knowledge of lab and research safety compliance.
- Assist the laboratory director with accomplishing corrective actions, maintenance, repair, or renovation procedures in order to correct infrastructure issues that impact safety or environmental compliance in the academic and research areas.
- Ensure adequate security measures are in place to meet federal security requirements on select research materials or operations.
- Adhere to the EHS procedures for the commissioning ([Laboratory Commissioning Guideline](#)) or decommissioning ([Laboratory Decommissioning Guideline](#)) of laboratory spaces to ensure safety and environmental measures are in place, or to ensure hazards are removed when an operation ends.
- Respond in a timely manner to all reports of failures of individuals to adhere to safety or regulatory requirements.

#### **Unit (School/College/Department) Safety Coordinators**

- Act as safety liaison between the academic or research operations and EHS, and assume the authority delegated by the dean or chair to deal with safety or environmental issues that arise during research operations.
- Disseminate all safety and environmental information to appropriate personnel in the department. This may be educational material, posters, signage, or specific changes in safety or environmental rules or practices.
- Perform periodic walk-throughs of academic laboratory and research areas to identify safety or environmental issues that require mitigation or reporting to EHS.
- Work with academic or research faculty and staff in resolving questions or raising concerns to appropriate authorities.
- Notify both the unit safety committee and EHS of potential safety hazards, exposures, accidents, injuries, illnesses, spills, releases, near misses, or other regulatory and environmental issues.
- Attend the annual EHS training program for Safety Coordinators and any other training recommended by EHS or safety oversight committees.
- Respond in a timely manner to all reports of failures of individuals to adhere to safety or regulatory requirements.

#### **Unit (School/College/Department) Safety Committees**

- Promote safety and make appropriate recommendations regarding academic and research operations specific to their unit or community members.
- Review accident reports and near miss reports and make appropriate safety recommendations to the laboratory director and department chair.
- Work with EHS and the U-M Laboratory and Research Safety Committee (LRSC) to promote safe and healthy work practices within the unit.
- Set a positive example for safety by modeling established safe work practices, by encouraging the reporting of concerns and near misses, by implementing corrective actions brought to their attention by EHS or a safety oversight committee, and by having an unbiased consideration for all safety questions or concerns raised by those working in the laboratory.
- Bring issues to an appropriate University safety oversight committee for discussion and/or assistance.

#### **University Laboratory and Research Safety Committee (LRSC)**

The LRSC will monitor compliance with rules and regulations applicable to various types of research conducted at U-M, and liaise with the unit safety committees which focus on academic laboratory and research safety. This committee will function in a similar way as other university research oversight committees, such as the Institutional Biosafety Committee, Institutional Review Boards, Radiation Policy Committee, University

Committee on Use and Care of Animals, and the Controlled Substances in Research Review Committee. This committee is composed of faculty and staff with expertise in the area of oversight, and its recommendations may be driven by regulation or best practices.

### **University of Michigan Office of Research (UMOR)**

- Coordinates with executive officers, deans, and directors to promote laboratory and research safety.
- Convenes the appropriate committees or faculty/administrative groups for recommendations on laboratory and research safety.
- Communicates and provides implementation recommendations to faculty and staff for major policies affecting laboratory and research safety.
- Reviews federal and state regulations for impact on laboratory and research safety policies and procedures.
- Supports education and training initiatives for laboratory and research safety.
- Notifies, as required, federal and state agencies regarding non-compliance issues under their purview relating to laboratory and research safety.

### **Department of Environment, Health & Safety (EHS)**

- Partners with UMOR to provide assistance to University departments and safety/environmental oversight committees to promote a safe and healthful workplace, protection of the environment, and compliance with applicable rules and regulations.
- Publishes policies and guidance and provides assistance and training in fire and life safety; environmental protection and sustainability; biological, chemical and radiation safety; hazardous material handling and waste management.
- Performs inspections of research facilities and operations and reports safety and environmental concerns to the appropriate unit for corrective action. Elevates unresolved issues to University administration, appropriate oversight committees, or appropriate school or college administration as necessary.
- Maintains highly trained and equipped staff to respond to safety and environmental emergencies.
- Collaborates with units and oversight committees to develop safety and environmental protection procedures, to determine proper equipment and controls, and to resolve health, safety, and environmental issues and concerns in a timely manner.
- Acts as liaison, in consultation with the U-M Office of General Counsel, with federal and state safety/environmental regulatory agencies when dealing with concerns impacting University activities.
- Appoints appropriately trained EHS staff to fill the regulatory roles of Biological Safety Officer, Radiation Safety Officer, Chemical Hygiene Officer, and Laser Safety Officer.

### **Executive Officers, Deans, Research Associate Deans, and Directors**

- Recognize and promote sound safety and environmental practices to set a positive tone for faculty, staff, and students to follow.
- Take appropriate steps to create a culture that supports reporting issues in an environment free of reprisal.
- Serve as role models and lead by example to demonstrate that safety and environmental protection are important facets of all University operations.
- Provide support for mitigating risks to provide a safe and compliant work environment.
- Empower unit safety committees and safety coordinators with authority to correct or elevate safety matters before they become major problems.
- Act to correct safety or regulatory deficiencies when brought to their attention.

### **Vice President for Research and Executive Vice President and Chief Financial Officer**

- Report to the Board of Regents on issues related to laboratory and research safety as appropriate.
- Receive and analyze reports and recommendations from University research oversight committees regarding laboratory and research safety.
- Secure resources necessary to ensure optimal functioning of departments charged with health, safety, and regulatory compliance such as EHS, UM Office of Research Ethics and Compliance, and committees charged with oversight of laboratory and research safety.
- Serve as role models and lead by example to ensure that the culture of research safety permeates all facets of the University environment.