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RESPONSIBLE OFFICER Executive Vice President for Administration and Chief Financial Officer	ADMINISTRATIVE OFFICE Law Enforcement and Safety

PURPOSE

This policy is intended to ensure that all stakeholders at the University of South Carolina (USC) Columbia and USC School of Medicine Columbia understand their individual and collective responsibilities to ensure safety and compliance when undertaking laboratory research.

DEFINITIONS & ACRONYMS

Chemical Safety Committee (CSC): provides oversight and advocacy to improve safety and compliance for research involving high-hazard chemicals and processes, and physical hazards in research laboratories

Complex safety/compliance risk: a risk that often impacts multiple labs and/or more than one USC department or college and creates a high risk due to its complexity and collective impact

High safety/compliance risk: a risk that could reasonably be expected to cause death, serious physical harm, significant property damage, or regulatory penalty if allowed to persist over time

Imminent high-risk: a risk determined to be immediately dangerous to life or health

Institutional Biosafety Committee (IBC): assesses the safety of research involving biological hazards and compliance with biosafety regulations, standards, guidelines, and USC policies by reviewing biosafety protocols and evaluating proper controls to mitigate biological research risks

Laboratory hazards: biological hazards (human pathogens, recombinant DNA, human blood or tissue, biological toxins), chemical hazards (carcinogens, reproductive toxins, acute toxicity, explosives, etc.), radiation hazards (radioactive material, x-ray machines, lasers, UV and infrared light, radiofrequency radiation, magnetic fields), and physical hazards (high voltage, high pressure, extreme temperature, excessive combustibles, cut/crush hazard) used for laboratory research.

Laboratory supervisor: oversees a research core facility in a department or college

Radiation Safety Committee (RSC): evaluates radioactive material proposals for compliance with regulations and licensing and maintains oversight for all use of radioactive materials and radiation producing equipment

Repeated non-compliance: includes moderate to high-risk violations that have been allowed to persist without required corrective actions being taken following more than one written notice (e.g., lab inspection report) about the risks and potential consequences of the violation
Retaliation: punitive action taken against an individual for reporting a laboratory safety concern, compliance risk, violation, or incident

Risk: the likelihood of a hazard or condition to cause negative consequences

Serious non-compliance: includes high-risk violations that are not resolved by the assigned deadline for implementing a corrective action

Willful non-compliance: includes moderate to high-risk violations that are committed intentionally or involve a failure to act to prevent a high-risk violation while having knowledge of the potential consequences

ADR: Associate Dean for Research (individual who oversees research activities in a college)

BSO: Biological Safety Officer (individual who manages the Biological Safety Program)

CHO: Chemical Hygiene Officer (individual who manages the Chemical Safety Program)

EH&S: Environmental Health and Safety

ERM: Enterprise Risk Management

PI: Principal Investigator (faculty member who oversees a scientific research laboratory) The individual ultimately responsible for any sponsored project, and, thus, the primary individual in charge of directing both the research and administration of a grant, cooperative agreement, training, public service project, contract, or other sponsored project. Failure to abide by relevant federal, state, or University policies may result in appropriate sanctions by sponsoring agencies or administrative officials of the University.

RSO: Radiation Safety Officer (individual who manages the Radiation Safety Program)

RSP: Research Safety Programs (collective term for the Biological Safety Program, Chemical Safety Program, and Radiation Safety Program or their respective staff)

SOP: Standard Operating Procedure

POLICY STATEMENT
The Research and Laboratory Safety policy is vital given the inherent risks associated with a proliferation of research experiments, interdisciplinary collaboration, the use of laboratory hazards and equipment, and an array of complex regulatory requirements that must be fulfilled. This policy therefore requires that stakeholders follow research safety policies and procedures, assess laboratory risks and hazards, implement proper risk controls to prevent incidents, and adhere to

laboratory safety and compliance obligations. By embracing a culture of laboratory safety when conducting scientific research, stakeholders can foster trust and mitigate these laboratory risks.

PROCEDURES

The following procedures outline the roles and responsibilities for all stakeholders conducting or overseeing research to promote laboratory safety and the fulfillment of compliance requirements:

A. Vice President for Research (VPR)

1. To oversee the university's research mission the VPR must:

    a. Support the suspension, limitation, or termination of research activities when notified these activities are not in compliance with safety regulations, standards, USC policies, or the compliance conditions of grant funding agencies.

    b. Participate in the annual ERM Research Safety Senior Committee meeting to review the research safety and compliance risk registers, heat maps, and high-risk reports.

    c. Meet at least once annually with management overseeing the RSP to discuss research safety or compliance challenges, opportunities for improvement, and emerging risks.

    d. Partner with stakeholders to implement a solution if notified of a significant gap in research safety or compliance oversight that is not covered by any USC program(s).

    e. Maintain a laboratory safety webpage that clearly articulates the VPR's expectations regarding research laboratory safety and compliance.

B. Deans and Department Chairs

1. To prevent lab incidents and mitigate safety risks, Deans and Department Chairs must:

    a. Require that all research laboratory incidents, safety concerns, compliance violations, and near misses are promptly reported to RSP staff by following the USC incident and near miss reporting procedures.

    b. Partner with a PI to ensure corrective actions are implemented when notified that a PI has repeat safety or compliance deficiencies during consecutive lab inspections or has an overdue corrective action plan for deficiencies identified during a lab inspection.

    c. Ensure that PIs planning to vacate a laboratory or dispose of any equipment comply with the laboratory decommissioning policies and procedures.

    d. Follow the IBC approval procedures for BSL-3/ABSL-3 or Select Agents research.

2. To effectively communicate on issues impacting research safety and compliance, Deans and Department Chairs must:

a. Email RSP safety officers to give advanced notice (if notice is not already provided) when a new PI moves into a laboratory, a PI shuts down their research or vacates a laboratory (e.g., retirement), or a PI is assigned to a different laboratory room.

b. Consult with RSP safety officers when considering research involving new or higher risk hazards to evaluate the resources required for safety and compliance and pursue only research that can be safely performed with available resources and infrastructure.

c. Email an RSP safety officer (based on the planned hazards) to request a safety review of new laboratory designs and/or renovation plans.

d. Consult with RSP safety officers and University Facilities staff prior to assigning faculty to a laboratory that may require facility modification for safety or compliance.

C. Principal Investigators and Laboratory (Lab) Supervisors

Principal Investigators (PIs) and lab supervisors are responsible for safety in their laboratory. A PI or lab supervisor may delegate responsibilities to a qualified member of their laboratory; however, the PI and lab supervisor remain responsible for ensuring these responsibilities are fulfilled.

1. To ensure required research approvals are obtained and effectively communicate regarding research activities that impact safety or compliance, PIs and lab supervisors must:

   a. Prepare and submit safety protocols for research involving biological hazards to the IBC. Ensure this research is approved by the IBC prior to conducting experiments.

   b. Prepare and submit authorizations for the use of radioactive material to the RSC. Ensure an authorization is approved by the RSC before using these materials.

   c. Prepare and submit a written SOP to the RSO for all research involving class 4 lasers.

   d. Review safety and compliance requirements in approvals from the requisite research safety committee (CSC, IBC, RSC) with lab personnel conducting experiments.

   e. Email RSP staff for safety and compliance guidance on the use of high-risk materials (e.g., high-hazard chemicals/processes, Risk Group 3 agents, special nuclear material) prior to submitting a grant proposal or requesting research safety committee approval.

   f. Consult with the CHO via email for guidance prior to purchasing any hazardous equipment. Consult with the RSO via email prior to purchasing and/or changing the configuration of an existing set-up involving radiation-producing equipment (e.g., x-rays, lasers). Consult with the BSO before installing or relocating a biosafety cabinet.

2. To ensure the proper operation of lab safety equipment, PIs and lab supervisors must:

a. Email the CHO and submit a work order to Facility Services when lab personnel identify a chemical fume hood that no longer functions properly. Verify fume hoods that fail certification are recertified prior to use.

b. Ensure biosafety cabinets (BSCs) that fail certification are repaired by a field certified vendor, and not used until any required repairs are completed. Ensure old BSCs are replaced when advised by the BSO or certified vendor.

c. Ensure lab personnel test eyewash stations and safety showers, and visually inspect fire extinguishers at the frequency specified in the Chemical Hygiene Plan.

3. To ensure safety and compliance for routine lab activities, PIs and lab supervisors must:

a. Designate a primary Lab Safety Contact and alternate contact as a liaison with RSP staff. Ensure the name and contact phone/email of the primary Lab Safety Contact is documented in RSP records, safety manuals, and hazard notices at the lab entrance.

b. Provide required personal protective equipment (PPE) and ensure that PPE is properly maintained and worn when required.

c. Ensure SOPs are developed following RSP guidelines for all high-hazard chemicals or processes. These SOPs must be accessible and reviewed periodically for updates.

d. Obtain any permits or training when required for compliant shipping or receiving of dangerous goods such as infectious substances, chemicals, or related materials.

4. To effectively train and supervise laboratory personnel, PIs and lab supervisors must:

a. Provide personnel with initial laboratory-specific training and instruction in safe work practices and procedures prior to conducting experiments and document this training.

b. Verify lab personnel complete required research laboratory safety training courses.

c. Ensure lab researchers know where to access the biological, chemical, and radiation safety manuals and relevant guidance on the Research Safety Programs website.

d. Observe the safety performance of lab personnel before authorizing them to perform high risk experiments, including wearing proper lab attire and utilizing required PPE.

e. Ensure proper management of hazardous waste, including waste disposal procedures.

f. Ensure a hazard analysis is completed before working on hazardous equipment.

g. Comply with all USC policies for minors in a research laboratory.

5. To prevent lab incidents and mitigate risk, PIs and lab supervisors or their designee must:

a. Participate in research lab safety inspections. Correct reported safety deficiencies by the requested due date and enter all corrective actions in the lab inspection reports.

b. Ensure a laboratory hazard notice is posted on the entrance door to each lab room.

c. Maintain lab inventories and safety data sheets (SDS) for all hazardous chemicals.

d. Notify RSP safety officers when lab personnel plan to use any new lab hazards.

e. Conduct a risk assessment each time a new potentially hazardous experiment is performed and implement appropriate safety practices to mitigate the identified risks.

f. Submit a work request to Facilities staff when a facility safety problem is identified.

g. Inform (via signage, verbally, or in writing) Facilities staff or contractors of hazards and how to prevent exposure when conducting maintenance or other work in the lab.

h. Suspend lab operations and ensure a safe work area in any location where non-lab personnel (e.g., Facilities staff, vendors) need to perform work in the lab.

i. Repair, replace, or dispose of equipment that is not functioning properly or deemed hazardous (e.g., frayed electrical wires).

j. Comply with laboratory and equipment decommissioning policies and procedures.

k. Ensure researchers are offered occupational health or medical services based on the hazards used that may result in exposure if required by regulations or USC policies.

6. Following a lab accident, injury, or unsafe condition, PIs and lab supervisors must:

a. Ensure reporting of near misses to RSP staff if they are aware of such incidents.

b. Report any laboratory incident or injury to RSP staff within 24 hours. Follow proper reporting procedures and steps in the USC Workers' Compensation guidance.

c. Ensure any known or suspected exposure to a hazardous chemical, infectious agent, or radiological contamination is immediately reported to a RSP safety officer.

d. Review the EH&S incident investigation report after an incident investigation; then, implement corrective actions included in the report.

D. Laboratory Personnel

Laboratory personnel include undergraduate and graduate students, postdoctoral scholars, lab technicians, scientific staff, volunteers, and other personnel authorized to work in research laboratories. Laboratory personnel are responsible for their individual safety and must work in

accordance with research safety protocols and procedures for all assigned tasks and hazards used.

1. In preparation for conducting experiments involving hazards, laboratory personnel must:

    a. Review and follow laboratory safety policies and procedures (e.g., Chemical Hygiene Plan, Biological Safety Manual, Radiation Safety Manuals, safety protocols, SOPs).

    b. Complete all required biological safety, chemical safety, and radiation safety training.

    c. Review hazard information (safety data sheets, equipment operation manuals, etc.).

    d. Complete lab-specific training on their duties, potential hazards, and precautions to minimize exposure. Provide safety training to lab personnel under their supervision.

    e. Consult with the PI or lab supervisor for guidance before using high-hazard materials, conducting high-risk procedures for the first time, or if there are any safety concerns.

    f. Consult with the PI or lab supervisor with any questions regarding the proper storage location, selection, use, maintenance, or limitations of PPE.

2. To prevent lab incidents and mitigate risk, laboratory personnel must:

    a. Follow verbal instructions, written laboratory safety protocols, regulations, policies, and SOPs for assigned tasks and hazards used for ongoing lab experiments.

    b. Wear the appropriate lab attire and PPE based on the hazards used.

    c. Utilize appropriate lab safety equipment (e.g., fume hood, biosafety cabinet).

    d. Follow procedures for proper laboratory hazardous waste management.

    e. Stop any lab activity that is believed to be unsafe and notify the PI or lab supervisor.

    f. Keep work areas uncluttered and properly store hazards after each use.

    g. Test eyewash stations and safety showers. If this safety equipment is not functioning properly, then immediately submit a work request to Facility Services so their staff can perform the required maintenance or repairs.

    h. Ensure lab samples are packaged in compliance with transport requirements after completing any required training (e.g., dangerous goods shipping or imports/exports). **Note**: Radioactive materials must be shipped and received by Radiation Safety staff.

    i. Ensure equipment used with laboratory hazards is properly decontaminated and cleaned prior to repair or maintenance work and/or removal from the laboratory.

3. Laboratory personnel who require health and safety guidance on specialized topics must:

    a. Email the Occupational Safety Manager and Industrial Hygienist when research involves hazards such as heat or cold stress, noise, high pressure, vibration, dust, or if research requires an assessment for indoor air quality, lockout/tagout, or respirators.

    b. Email the Fire Safety staff for guidance before starting any new research that may be subject to fire protection requirements.

    c. Obtain occupational health or medical surveillance services if required for use of a lab hazard by USC policy, a safety committee (CSC, IBC, RSC), or safety protocol.

    d. Self-identify to a healthcare provider for counseling and guidance when their health status may impact safely performing assigned duties or working with a lab hazard; inform the PI or lab supervisor of any work modifications ordered by a physician.

4. Lab personnel working autonomously or performing research independently must:

    a. Develop and document an initial plan or scope of work for their proposed research using hazardous materials or equipment and review it with the PI or lab supervisor.

    b. Prepare SOP and perform literature searches to assess and mitigate the risks associated with their research (this may include consulting with RSP staff).

    c. Notify and consult with the PI or lab supervisor in advance if they intend to expand the scope or increase the scale of experiments that involve a laboratory hazard.

5. Following a lab accident, injury, near miss, or unsafe condition, lab personnel must:

    a. Immediately report accidents/injuries to the PI or lab supervisor. Submit a completed USC Laboratory Incident Report Form to the RSP Office. Any known or suspected exposure to hazardous chemical, infectious material, or radiation (e.g., radioactive material, x-ray, laser) must be immediately reported to the BSO, CHO or RSO.

    b. Review the EH&S incident investigation report, institute required corrective actions, and discuss lessons learned with the PI or lab supervisor and fellow researchers.

E. EH&S Research Safety Programs

The Research Safety Programs (RSP) foster collaborative partnerships with the research laboratory community to promote safety and compliance for research involving laboratory hazards. While Research Safety officers have authority to enforce safety and compliance standards, the RSP collaborate closely with the IBC, CSC, and RSC as partners in supporting research safety.

1. The RSP will provide the following services to help research lab personnel identify and evaluate hazards and mitigate the risk of exposure or other safety/compliance incidents:

    a. Develop USC research safety policies and procedures to communicate institutional expectations regarding safety, compliance, and best practices.

    b. Develop and deliver laboratory safety training courses and post requirements on the research safety website (course name, delivery method, and frequency).

    c. Answer questions regarding research safety regulations, standards, and guidelines.

    d. Conduct periodic research laboratory safety inspections.

    e. Send inspection reports to laboratories that include any identified laboratory safety or compliance deficiencies and guidance for corrective action plans when needed.

    f. Certify chemical fume hoods and answer questions on their proper operation.

    g. Coordinate biosafety cabinet (BSC) certifications with the vendor. Maintain inventory and certification records. Answer questions on BSC selection, installation, and use.

    h. Manage shipping and receiving of radioactive materials.

    i. Provide training to personnel who request it for shipping biological materials.

2. The RSP will collaborate with researchers and research safety committees by:

    a. Partnering with the IBC to review biosafety protocols for research involving recombinant or synthetic nucleic acid molecules and other biological hazards.

    b. Partnering with the CSC to develop SOP templates for research involving high-hazard chemicals and processes and review SOPs on the CSC meeting agenda.

    c. Partnering with the RSC to review requests for authorizations involving the use of radioactive materials.

    Note: Research involving unique laboratory hazards or equipment may require external subject-matter experts to assess the risks and establish safety plans.

3. The RSP will assist in developing procedures for reporting lab incidents and near misses. After receiving a lab incident report, the RSP will assist in investigating the incident and recommend corrective actions after the investigation to improve lab safety or compliance.

4. The RSP will maintain records provided by laboratory personnel of the name and contact information of Principal Investigators using lab hazards, the location of lab buildings and rooms, the type of hazards used or stored in each lab, and lab safety inspection reports.

5. The RSP will maintain the Research Safety Programs' website to promote a safe research laboratory environment that includes research safety and compliance guidance resources.

6. Upon request, the RSP will also provide the following services:

    a. Serve as a member and a subject-matter expert on research safety committees.

    b. Provide consultations and risk assessments on the safe use of hazardous materials.

    c. Review SOPs for the use of high-hazard chemicals and processes.

    d. Provide safety guidance for research involving hazards used in vertebrate animals.

    e. Review facility design and construction plans for laboratories that will be used for research involving biological, chemical, radiation, or other laboratory hazards.

    f. Provide reports on research laboratory safety issues to safety committees or leadership.

7. The Hazardous Waste Program will coordinate the pickup and disposal of chemical waste, infectious waste, and radioactive waste when lab personnel request a pickup.

Research labs may also require safety or compliance services including but not limited to those provided by the RSP:

Fire Safety provides guidance on fire protection requirements, Industrial Hygiene provides services for indoor air quality or use of respirators, Occupational Safety provides services for physical hazards, and Occupational Health provides medical services required for researchers.

F. University Facilities

The USC Columbia Facilities Department, including Facility Services and Planning Design and Construction, and the USC School of Medicine Columbia Facilities Management and Support Services must:

1. Consult with RSP staff for all laboratory design and construction projects to request input on safety and compliance design requirements. Provide project plans to RSP staff with reasonable advanced notice to allow for a complete and effective review. Email the CHO, BSO, or RSO with questions based on the hazards that will be used in the new lab facility.

2. Ensure known safety requirements are included in the final laboratory facility design plans when required by research safety regulations, standards, guidelines, or RSP safety officers.

3. Fulfill valid work orders impacting research safety. Accordingly, Facility Services will:

    a. Perform timely maintenance/repairs to ensure chemical fume hoods pass certification.

b. Perform timely maintenance and repairs for any equipment connected to building utilities that are used for safe and compliant research.

c. Partner with research personnel to replace safety equipment connected to the building utilities if maintenance or repairs cannot be completed to ensure its proper operation.

4. Not enter a laboratory when the PI or lab personnel have given notice (signage, verbal, written) that access is restricted (e.g., authorized personnel only signage by the door), and enter a laboratory only after approval and when escorted by the PI/designee or RSP staff.

5. Verify hazardous materials are removed (by lab personnel) from the immediate area where facilities work will be performed. When removal or safe storage of hazards away from the area is not possible, Facilities staff must email the CHO to determine proper precautions to mitigate the risk when conducting maintenance or other authorized work in the laboratory.

6. Follow safety precautions communicated verbally or in writing by RSP safety officers or the PI/supervisor when Facilities staff are working in or entering research laboratories.

G. Escalated Enforcement for Research and Laboratory Safety and Related Compliance Risks

A safety risk or non-compliance in a lab may be reported by anyone in the USC community. The escalated enforcement process ensures that a verified risk is resolved, and that the action taken depends on the likelihood and severity of potential consequences. The processes are as follows:

1. When an individual identifies a high or complex safety/compliance risk that impacts one laboratory, the following steps must be taken:

a. The individual identifying the risk must send written notification that describes the laboratory safety or compliance risk and required corrective actions to the PI or lab supervisor.

b. If the identified laboratory safety and/or compliance risk is not resolved, then the individual identifying the risk must send written notification to the appropriate RSP safety officer (based on the type of lab hazard) to determine the proper corrective action plan. The individual identifying the risk will then notify the Department Chair.

c. The Department Chair must then take appropriate action to ensure the issue creating the risk is corrected. The Chair will provide written notification to the PI regarding the required deadline to implement the corrective actions, which will depend on the likelihood and severity of potential consequences. The Chair will consult with the RSP safety officer to determine a reasonable deadline.

d. If the risk is not resolved by the deadline provided to the PI, then the Chair will send the ADR written notification which must include the name of the PI or lab supervisor,

identified risk, required corrective actions, and a new deadline for implementing the corrective actions. The Chair will include the RSP safety officer on this notification.

e. The ADR must then take any necessary steps to ensure the required corrective actions are implemented to resolve the risk.

2. When an individual identifies a high or complex safety/compliance risk that impacts multiple laboratories in one or more departments and/or colleges, the following steps must be taken:

   a. The individual identifying the risk must send written notification that describes the laboratory safety or compliance risk to the appropriate research safety committee's administrator (IBC, CSC or RSC).

   b. The research safety committee will then partner with the RSP safety officer serving on the committee to determine the proper corrective action plan.

   c. The research safety committee will document the appropriate corrective action plan to mitigate the risk(s) and determine if the risk needs to be included in the ERM records.

   d. The committee will send written notification that describes the labs involved, the safety/compliance risk, required corrective actions, and a deadline to implement the corrective actions. This notification will be sent to the Department Chair if the risk is in one department or to multiple Chairs if more than one department is impacted. The deadline depends on the likelihood and severity of any potential consequences.

   e. The Department Chair(s) must ensure the required corrective actions are implemented by the deadline.

   f. If the risk is not resolved by the deadline provided to the Chair(s), then:

      i. The research safety committee will send written notification to the ADR. If more than one College is impacted, the ADR in each college will be sent a notification. This notice will include the name(s) of the impacted PI(s) or lab supervisor(s), the observed safety or compliance risk, required corrective actions, and a new deadline for implementing the corrective actions.

      ii. The ADR(s) must ensure the corrective actions are implemented by the deadline.

      iii. Once the risk has been resolved, the ADR(s) will send a written response back to the research safety committee's administrator to document the identified risk and date the required corrective actions were implemented.

      iv. The committee's administrator will share the response from the ADR(s) during the next convened research safety committee meeting.

g. If the risk is not resolved by the deadline provided to the ADR(s) or the ADR(s) are unable to implement the corrective actions for any reason, then:

   i. If the ADR(s) are partnering with stakeholders in their college to implement the corrective actions but need additional time past the deadline, then they must send a written notification to the research safety committee. This notice will include an update on the corrective action's implementation status and request for reasonable additional time with a specific date to complete the corrective action. Once the risk has been resolved by the extended due date, the ADR(s) will send a written response to the research safety committee's administrator to document the identified risk and date the required corrective actions were implemented.

   ii. If the ADR(s) are unable to implement the corrective actions for any reason, then they must partner with other stakeholders to implement the required corrective actions that will ensure research safety and compliance. This partnership may include their Dean, Office of the VPR, RSP safety officers, Facilities, or other departments and divisions as necessary to implement a sustainable solution.

   iii. When contacted by the ADR(s) for assistance to implement research safety and compliance corrective actions, stakeholders must commit to contribute resources within their scope of authority to accomplish the required objective. This may include expertise, funding, or any other forms of necessary support to the ADR(s).

   iv. The ADR(s) will send a written response to the research safety committee's administrator (IBC, CSC or RSC) to document how the identified safety or compliance risk was or will be resolved.

   v. The committee's administrator will share the response from the ADR(s) during the next convened research safety committee meeting.

3. When an individual identifies an imminent high laboratory safety/compliance risk, the situation requires a quick and progressive escalation. A more expedited process will be utilized when an imminent safety condition arises that may be immediately dangerous to life and health. The Research Safety Manager, Occupational Safety Manager, EH&S Director, and research safety committee chairs have full authority to suspend or limit research activities or evacuate labs until an imminent high-risk condition is resolved. Individuals involved in identifying and resolving the risk must take the following steps:

   a. Immediately provide verbal notification to the impacted researchers that describes the laboratory safety or compliance risk. Researchers must take immediate action to mitigate the identified risk and consult with their PI or lab supervisor.

   b. Send written notification as soon as possible to the PI or lab supervisor and RSP safety officer (based on the type of hazard) to verify the proper corrective action plan.

c. If the PI or lab supervisor and/or RSP safety officer determines that appropriate and timely actions are not being taken to mitigate the high-risk situation, then the PI or lab supervisor will immediately notify the Department Chair. The Chair must take any necessary steps to ensure the corrective action is implemented as soon as possible.

d. If the Chair is not available to provide the required timely support, then the PI or lab supervisor must provide written or verbal notification (whichever is most efficient for a timely response) to the ADR with a description of the high-risk situation and required corrective actions. The ADR must ensure the corrective actions are implemented as soon as possible and verify the high-risk situation is resolved.

e. The RSP safety officers and EH&S management staff may notify any stakeholders they deem necessary to assist with resolving a high-risk situation.

4. Situations which involve serious, willful, or repeated faculty non-compliance or retaliation are subject to the following procedures:

   a. Pursuant to USC Policy ACAF 1.82 Faculty Progressive Discipline, the failure to resolve research safety/compliance violations that meet the criteria of serious, willful, or repeated non-compliance or retaliation may constitute employee misconduct or inappropriate workplace behavior resulting in discipline up to possible termination.

   b. When determining if a safety or compliance violation meets one of these criteria, consideration will be given to the actions that could have reasonably been taken by the PI or lab supervisor to implement the required corrective actions, and to factors that may have been beyond their control.

RELATED UNIVERSITY, STATE, AND FEDERAL POLICIES

USC Chemical Hygiene Plan
USC Biological Safety Manual
USC Radiation Safety Manuals
USC Chemical Safety Committee Charter
USC Institutional Biosafety Committee Charter
USC Radiation Safety Committee Charter
APLU A Guide to Implementing a Safety Culture in Our Universities
FESAP Guiding Principles for Biosafety Governance
OSHA Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450)
OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030)
NIH Guidelines: Research Involving Recombinant or Synthetic Nucleic Acid Molecules
CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL)
SCDES Regulation 61-63 Radioactive Materials (Title A)
SCDES Regulation 61-64 X-Rays (Title B)
SCDES Regulation 61-105 Infectious Waste Management Regulation
ANSI Z136 Laser Safety Standards
NFPA 45 Standard on Fire Protection for Laboratories Using Chemicals
NFPA 55 Compressed Gasses and Cryogenic Fluids Code

US Department of Transportation Hazardous Materials Regulations

HISTORY OF REVISIONS

DATE OF REVISION	REASON FOR REVISION
April 14, 2025	New policy approval