



WILLIAM & MARY

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Comprehensive Safety Plan
Revision 7

July 2018

University of William & Mary
COMPREHENSIVE SAFETY PLAN

Foreword

As an employer in the Commonwealth of Virginia, William & Mary (W&M) complies with requirements set forth in the Virginia Occupational Safety and Health Act. More importantly, the University is committed to maintaining a healthful and safe work environment for students, faculty, staff, contractors and visitors who use University facilities.

A broad network of departments, organizations, and individuals work together to maintain the health and safety of the University community including individual employees, managers and supervisors, departmental safety personnel, the Student Health Clinic, the Physical Plant, the W&M Police Department (WMPD), and the Environment, Health, & Safety (EH&S) Office.

It is University policy that each dean, director, department chair, and supervisor be responsible for the safety performance of his or her respective unit. Everyone with supervisory responsibility is required to participate directly in the supervision of programs to assure that safe working conditions are maintained and that required training for accident prevention is provided. Faculty and staff are also directly responsible for their own safety and for the safety of students and employees under their supervision. Responsibility for safety can neither be transferred nor delegated.

The university's EH&S Office is charged to assist departments and organizational units to provide an environment that protects and promotes health and safety, and is in compliance with work place health and safety laws, regulations, codes, and recognized standards. This plan is one of the most useful tools departments can use to establish and maintain a healthful and safe work environment.

Suggestions and comments regarding this plan should be provided to the Director, EH&S via email at slprio@wm.edu.

Introduction

William & Mary is committed to providing a safe and healthful campus for its employees, students and visitors and to managing the university in an environmentally sensitive and responsible manner. William & Mary recognizes an obligation to demonstrate safety and environmental leadership by serving as an example to our students as well as the community at large. The primary responsibility for providing a healthful and safe working environment at the university rests with all university employees, from the President to the individual worker. William & Mary considers no activity to be so urgent that we would compromise our standards for the safety and health of individuals. To assure fulfillment of our commitment, William and Mary adopts the following environmental quality, health and safety goals:

- Develop and improve programs and procedures to assure compliance with all applicable laws and regulations;
- Integrate environment, health and safety details into the planning process of every experiment, field activity, or creative program we do outside of the classroom;
- Ensure that personnel are properly trained and provided with appropriate safety and emergency equipment;
- Take appropriate action to correct hazards or conditions that endanger health, safety, or the environment and monitor corrective actions progress;
- Consider safety and environmental factors in all operating decisions including planning and acquisition;
- Ensure that every employee, student, contractor, visitor and volunteer on university premises will follow this policy and report any environment, health, or safety concern to university management.

To effectively meet these goals the EH&S Office developed this Comprehensive Safety Plan. This plan outlines the basic responsibilities for environment, health, and safety expectations at W&M, stresses efforts to reduce accidents, confirms compliance with applicable environment, health, and safety regulations, and emphasizes the university's commitment to a safe and healthful institution. The EH&S Office manages the plan and reviews it annually. The purpose of the plan is to provide guidance and direction for the environment, health, and safety programs at W&M.

Safety Policy

Protecting the health and safety of employees, students, visitors, and the environment is of primary concern to William & Mary. The University takes an active role in identifying hazards before injuries, illnesses, and/or loss of property occur. William & Mary makes every reasonable effort to promote, create, and maintain a safe and healthful environment through adherence to basic safety

principles, sound management practices, and compliance with applicable federal, state, and local standards

Organization

The university Provost is ultimately responsible for EH&S at William & Mary, and each person at the university is responsible for establishing knowledgeable control of the hazards he or she encounters. In addition, individuals are responsible for control of particular hazards by specific assignment.

The necessary level of knowledgeable control is established by a combination of experience, awareness, written guidance, and formal training. This combination allows each person to recognize hazards that may threaten human health or the environment and provides the means to control hazards and situations in a manner intended to maintain each person's continuous safety.

Each university employee has EH&S responsibilities incorporated in his/her job activities. Each university employee is accountable to a supervisor, principal investigator, and/or department chair. Supervisory responsibility continues up the management chain to the Vice Presidents and Deans responsible for the safety and health of all personnel assigned to their major schools, departments and offices. They, in turn, are accountable to the Provost.

There are two university departments that assist the Provost in overseeing university safety. They are the W&M Police Department and the EH&S Office.

W&M Police Department

The W&M Police Department operates under the direct oversight of the Senior Vice President for Finance & Administration. The W&M Police Department provides professional police, public safety, emergency communications, and emergency management services that include active police patrol 24 hours-a-day, 7 days-a-week; crime prevention services; critical incident response; criminal investigation; security technology systems; student training on Response to an Active Shooter Incident, Alcohol and Other Drugs Awareness, and Rape Aggression Defense; and victim/witness support services. For more information, see the [W&M Police Department's web site](#).

Environment, Health & Safety (EH&S) Office

The university EH&S Office is assigned to the Office of Finance and Administration, Facilities Management Department and operates under the direct supervision of the Associate Vice President, Facilities Management with additional accountability to the Vice-Provost for Research & Graduate Professional Studies for all health and safety programs related to the university's operational, academic and research activities. The EH&S Office has

responsibility for implementation of all university policies related to public, occupational, and environmental health and safety at university-owned, -operated, and –controlled sites, providing a wide range of technical services and leadership. The EH&S Office offices fulfills regulatory-mandated technical functions for the university that include, but not limited to the Laboratory Safety Officer, Chemical Hygiene Officer, Asbestos Manager, Lead-based Paint Manager, Hearing Conservation Officer, Alternate Radiation Safety Officer, Hazardous Waste Coordinator, and Laser Safety Officer. Refer to the [EH&S website](#) for more information on EH&S programs.

Committee Responsibilities

Institutional Animal Care and Use Committee

The Institutional Animal Care and Use Committee (IACUC) is appointed by the Provost to ensure compliance with Federal regulations (Department of Agriculture 9 CFR parts 1 and 2; Public Health Service 99-158) concerning care and use of vertebrate animals in research and teaching activities. Any type of activity involving live vertebrate animals must be approved by IACUC prior to acquisition of animals or initiation of any research or laboratory exercise. Projects which may involve such activities include but are not limited to grant proposals, laboratory class exercises, thesis/dissertation research, and independent laboratory research. The IACUC reports to the Vice Provost for Research & Graduate Professional Studies. For more information about IACUC Policies, refer to [IACUC Policy and Procedures for Research and Teaching Involving Live Vertebrate Animals](#). Also refer to the [Occupational Health and Safety Program for Animal Care and Use](#).

Institutional Biosafety Committee (IBC)

The Institutional Biosafety Committee (IBC) is a University-wide committee appointed by the Provost to review and approve the following procedures to ensure that they are conducted in a safe and appropriate manner: 1) Recombinant DNA technology, which is subject to the NIH Guidelines for Research Involving Recombinant DNA Molecules; 2) Agents infectious to humans and other animals; 3) Use of human tissues, fluids, or cell lines or primate tissues, fluids or cell lines; 4) Lab or field work on animals for which a documented and reasonable potential for transmission of zoonotic agents exists, e.g., wild-trapped rodents, birds, amphibians; 5) Lab or field work with the intent to isolate or culture pathogens; and 6) Research on biological agents that produce harmful toxins, where there is significant potential for human exposure. The Institutional Biosafety Committee at William & Mary is not limited to the narrow regulations on recombinant DNA technology set forth by the NIH. The IBC at William & Mary takes the stance that any research involving potentially harmful agents must be registered and approved by the university's IBC. The IBC. The IBC is comprised of university faculty and staff appointed by the

Provost and at least two outside community members who shall fulfill the responsibilities described in the university Policy for Institutional Biosafety, the Guidelines for Research Involving Recombinant DNA Molecules, CDC Biosafety in Microbiological and Biomedical Laboratories, and the university's Bloodborne Pathogens Exposure Control Plan. The IBC reports to the Vice Provost for Research & Graduate Professional Studies. For more information about the IBC policies, refer to the [Policy for Institutional Biosafety](#).

Protection of Human Subjects Committee

The Protection of Human Subjects Committee (PHSC) is a university-wide committee appointed by the Provost for review of compliance with Federal guidelines for the conduct of research. Approval from the PHSC must be obtained prior to initiating a research project involving human subjects and/or records of human subjects. The PHSC is charged with insuring () that all research on human subjects conducted by the students, faculty, and staff of the university and any external investigators consistently meets the highest ethical standards, and, (b) that such research is conducted in full compliance with applicable federal and state laws and regulations. The PHSC has the authority to mandate additional requirements for specific proposals if they are based on established research, safety, and/or ethical considerations. In order to meet this charge, the Committee shall: (a) prepare suitable documents to inform the university community of the need for research approval and of the proper procedure for securing such approval; (b) conduct prior review, as specified in appropriate regulations, of proposed research; (c) require periodic updating on the progress of long-term research; (d) have the responsibility to halt unapproved or noncompliant research; and (e) if appropriate, report all violations of guidelines and regulations to the appropriate Chairperson or Dean and to the Provost. The PHSC reports to the Vice Provost for Research & Graduate Professional Studies. For more information, refer to the [W&M Human Subjects Guidance & Procedures](#).

Radiation Safety Committee

The use of radioactive materials and ionizing radiation producing devices at the university is governed first by the Nuclear Regulatory Commission (NRC) under Title 10, Code of Federal Regulations (CFR), Parts 19, 20, and 30 and the subsequent transfer of this authority to the Virginia Radioactive Material Program (VRMP) as an "Agreement State," in April 2009. The program is conducted in accordance with Chapter 481, "Virginia Radiation Protection Regulations." The current License, all records, forms, and operating procedures, as well as copies of the regulations are available from the Radiation Safety Officer. It is the responsibility of the RSC to ensure the University's practices are in compliance with state regulations and the conditions of the university license. The RSC consists of each department's Radiation Safety Officer and alternate RSOs, as well as ex officio faculty members. This board meets annually to review

radioactive material and ionizing radiation producing device use. For more information, refer to the university's [Radiation Safety Manual](#).

Emergency Management Team

The [Emergency Management Team \(EMT\)](#) is responsible for overall coordination of the university's emergency preparedness efforts.

Vehicle Accident Review Committee

This committee is chaired by the Risk Manager and includes representatives from the W&M Police Department, Facilities Management, Environment, Health, & Safety, and Auxiliary Services. The committee reviews all accidents involving University-owned or operated vehicles. The committee meets at the call of the Chair. See the university's [Vehicle Use Policy](#) for more information regarding vehicle use.

Individual Responsibilities

Provost

The Provost is committed to establishing a workplace committed to ensuring the safety of all employees, contractors, visitors, and guests as well as protecting the health of the community at large. To do this, the Provost delegates certain authorities to Vice Provosts, Vice Presidents, Associate Vice Presidents and Deans; establishes University EH&S management directives; and ensures that sufficient resources are being devoted to the maintenance of EH&S programs. Annually, the Provost communicates the university's commitment to EH&S through his [Essential Matters Message](#). Failure to follow established EH&S directives shall be addressed as provided in the university's [Employee Handbooks](#).

Senior Vice President for Finance & Administration

The Senior Vice President for Finance & Administration ensures EH&S practices are integrated throughout all levels of the organization and that sufficient resources are devoted to the development, operation, and maintenance of EH&S programs. The Senior Vice President for Finance & Administration establishes university EH&S management policy and directives. Through the Facilities Management Department, the Senior Vice President for Finance & Administration provides operational control, oversight and support to the EH&S Office in key areas of facilities, budgeting and risk management.

Vice Provost for Research (VPR) and Graduate Professional Studies

The Vice Provost for Research emphasizes the critical nature of safe field and laboratory practices and reinforces the importance of EH&S through his [University Research Compliance Memoranda](#) to faculty and staff. In addition, the VPR ensures that the university's research enterprise is managed in accordance with federal, state, and institutional regulations and guidelines through review, approval and oversight by appointed institutional compliance committees. The VPR provides guidance and support to the Director, EH&S for academic and research safety policies and procedures development, implementation and oversight.

Chief Compliance Officer

The Chief Compliance Officer has overall responsibility for the university's compliance program including compliance with environmental and workplace safety laws and regulations. The Chief Compliance Officer (CCO) advises the Director, EH&S on development of EH&S policies and procedures, particularly those designed to ensure compliance. The CCO also assists the Director, EH&S with identifying and closing gaps in EH&S compliance requirements as needed. And, in consultation with University Counsel and EH&S, the CCO coordinates the university's response to investigations, audits, and inquiries from external enforcement agencies. The CCO provides guidance on [Environmental and Workplace Safety Compliance](#).

Vice Provosts, Vice Presidents, and Deans

The Vice Provosts, Vice Presidents, and Deans are responsible for the safety and health of all personnel assigned to their major schools, departments and offices at William and Mary. Vice Provosts, Vice Presidents, and Deans shall ensure that the university EH&S guiding documents and the commitment of his/her major school, department or office to these policies are communicated clearly to all subordinate personnel. In coordination with the EH&S Office, they conduct a review and investigation of all job-related illnesses and workplace accidents and injuries necessary to identify any workplace hazards that need to be corrected. They ensure workplace safety requirements and responsibilities are incorporated into employee job descriptions as appropriate and ensure that workplace safety expectations are communicated to each employee. They also ensure that periodic safety self-audits of workspaces and/or facilities conducted by the EH&S Office are distributed to the appropriate director, department head or department chair and that corrective actions for EH&S findings are completed as assigned. Lastly, they communicate effectively with the EH&S Office and other affected parties throughout the corrective actions process and ensure that lessons learned from accidents/incidents are communicated to staff working within the scope of management authority.

Directors, Department Chairs, Department Heads

Safety and health are paramount responsibilities at each management level. Each member of the management team has a personal and individual responsibility for the safety and health of all persons who report to them or are assigned to them for special purposes.

Faculty, Principal Investigators and Supervisors

Faculty/Principal Investigators (PI) have responsibilities with respect to their own research and coursework to include: 1) Preparing Standard Operating Procedures for high hazard research work/laboratory and/or field research activities prior to starting work; 2) Assuring that hazards associated with their teaching/research activities are proactively identified and corrected by including use of engineering and/or administrative controls, or by assuring use of necessary personal protective equipment in lesson plans/research protocols; 3) Maintaining workspaces and equipment in a safe, well-kept condition; 4) Requiring all staff and students working in support of their research protocols attend and maintain current required safety training; 4) Completing timely corrective actions for EH&S findings as required; 5) Responding promptly to EH&S concerns from employees/students and request technical assistance from the EH&S Office when appropriate; 6) Stopping work that is not consistent with established policies, procedures, permits, and performance standards and initiate corrective actions to bring work into compliance; 7) Reporting job-related illnesses and workplace accidents regardless of whether they resulted in an injury or illness to their respective Department Chair; 8) Taking actions to prevent reoccurrence; and 9) Disposing of waste properly and in accordance with university, state and federal requirements. Principal Investigators and Supervisors shall ensure that individuals under their supervision are trained to recognize hazards which they are reasonably expected to encounter in the performance of their duties and to perform their assigned activities safely. They shall monitor activities under their supervision for safe operation, and stop work which is not consistent with established policies, procedures, permits, and performance standards. Further, they ensure that releases to the environment are within acceptable levels and that wastes are managed in accordance with applicable laws and established University procedures.

Supervisors

With respect to their and their employees' work activities and work areas, Supervisors are responsible for: 1) Preparing Standard Operating Procedures for high hazard work activities prior to starting the work; 2) Assuring that hazards associated with work activities are proactively identified and corrected by implementing engineering or administrative controls, or by assuring use of necessary personal protective equipment; 3) Maintaining workspaces and

equipment in a safe, well-kept condition; 4) Requiring all staff to attend and maintain current required safety training; 5) Completing corrective actions for EH&S findings as required; 6) Responding promptly to EH&S concerns from employees and request technical assistance from the EH&S Office when appropriate; 7) Stopping work which is not consistent with established policies, procedures, permits, and performance standards and initiate corrective actions to bring work into compliance; 8) Informing their respective supervisor of job-related illnesses and workplace accidents regardless of whether they resulted in an injury or illness; 9) Taking actions to prevent reoccurrence; and 10) Disposing of waste properly and in accordance with university, state and Federal requirements.

Individuals

Each employee shares responsibility for campus health and safety to include: 1) Taking reasonable care of his/her own health and safety and to not put fellow employees and members of the public at risk by what he/she does or does not do in the course of his/her work; 2) Exercising their Stop Work authority if he or she observes an unsafe work activity that he or she believes poses an imminent danger; 3) Being accountable to his or her supervisor, principal investigator, and/or department chair for compliance with all EH&S requirements; and 4) Ensuring he/she completes EH&S training as required in the job description, task hazard analysis, EH&S program document, and/or state & Federal regulations. Each individual has an inherent responsibility from which he/she cannot be absolved for his/her own personal safety and health as well as the safety and health of those with whom they are associated in a work environment. Each individual is responsible for knowing, understanding, and observing all safety and health precautions applicable to his/her work area. Each individual has authority to stop any activity within his or her area that presents an imminent threat to human health or the environment.

Contractors and Subcontractors

[Contractors and Subcontractors](#) have the following responsibilities with respect to their and their employees' work activities and work areas while engaged in contracted work on university property: 1) Contractors shall comply with the university's EH&S policy and all other applicable laws, codes and university policies/procedures; 2) Contractors shall provide the EH&S Office a copy of their EH&S policy and procedures prior to the start of contracted work. Contractors with less than 10 employees who do not have their own written procedures shall follow applicable university procedures; 3) Contractors shall have completed all applicable EH&S training requirements as a condition of working on the university campus; and 4) Contractors shall provide personal protective equipment and job specific equipment to include barricades, ladders, lifts, pumps, air monitors, spill response materials, and containers for all jobs

performed at the university in accordance with applicable laws, codes and university policies/procedures.

Human Resources

The Director, [Human Resources](#) manages the university's Worker's Compensation Program and assists the Director, EH&S with development and implementation of relevant EH&S training. The Workers' Compensation Specialist manages the Worker's Compensation Program and monitors the university's return to work program in accordance with the guidelines set forth in [Executive Order 109, "Workplace Safety and Health."](#) The Workers' Compensation Specialist reports directly to the Director, Human Resources and works closely with all members of the university EH&S Office on worker illness/injury follow-up. The university [Director, Training and Development](#), coordinates with the Director, EH&S to facilitate central access to EH&S training delivery and employee EH&S training records.

Risk Manager

William and Mary, an agency in the Commonwealth of Virginia, is insured through the Commonwealth's Risk Management Plan. The Plan provides coverage anywhere that College business takes the faculty and staff. This coverage includes liability, property, vehicle and employee theft. The [Commonwealth's Division of Risk Management](#) (DRM), within the Department of the Treasury, administers the Plan. The Risk Manager is responsible for the management of claims against and for the College, which could involve bodily injury, property damage and other types of loss. Losses may arise from fire and water damage, liability claims, theft and other causes. The [Risk Manager](#) supports university organizations by assessing potential risks associated with their activities, recommending action to manage hazards, and/or suggesting the contractual transfer of these risks. In the event of a mishap, the Risk Manager assists in controlling the loss and recovery through the university insurance provider. The Risk Manager also oversees vehicle accident investigations and serves as the Chair of the Vehicle Accident Review Committee which meets annually to assess vehicle accidents and make recommendations on prevention. For more information, refer to the [Risk Management](#) web pages.

Emergency Management Coordinator

Maintains the Emergency Operations Center (EOC) in a constant state of readiness. Develops and maintains the [Emergency Operations Plan](#) (EOP) and other relevant plans. Assumes duties as directed by the Chair of the Emergency Management Team (EMT) or the EOC Manager. Maintains the training and exercise program to better prepare designated staff for emergency response and recovery tasks. Coordinates directly with the Williamsburg Emergency Manager

and other public safety officials in related planning, preparation, response and recovery efforts.

Building Emergency Coordinators

Building Emergency Coordinators (BEC) are a vital part of the university's emergency preparedness and response protocols. Building Emergency Coordinators serve as liaison to the Emergency Management Team (EMT) and as their department's main point of contact to the EMT during Level 2 and Level 3 emergencies. They are responsible for ensuring that an emergency evacuation plan is in place for their assigned building(s), and or floor(s) and that all occupants working in the building/on the floors are trained on the contents of their respective Building Emergency Plan (BEP). Refer to [Building Emergency Coordinator responsibilities](#) for specific information on the role of BECs.

Director, EH&S

The Director, EH&S develops and manages the university's environment, health, and safety programs. The Director, EH&S establishes and maintains EHS programs and procedures supplemental to academic and administrative policy guidance for appropriate aspects of environmental protection; industrial safety; industrial hygiene; radiation (ionizing and non-ionizing) safety; fire protection; waste management; including hazardous waste disposal, especially laboratory chemical, biological, and radiological materials; mold, lead, asbestos, or other abatement programs; and transportation of hazardous materials by ensuring full compliance with applicable laws, regulations, and policies. Effective oversight of these programmatic areas includes monitoring, auditing and routinely inspecting EH&S programs implementation at the directorate and department level. The Director, EH&S advises Federally-mandated Compliance Committees, including Radiation Safety, Institutional Biosafety, Human Subjects, Animal Use and Care on EH&S-related aspects of research protocols and serves as an *Ex Officio* member of each committee. The Director, EH&S supports University Counsel and the Chief Compliance Officer in interactions relating to health and safety with external enforcement agencies and other entities in the areas of public health, occupational health, fire safety, and environmental regulations. The Director, EH&S is also responsible for coordinating University-wide training and maintaining official training records. The Director, EH&S represents the university with all applicable Federal, State and local environmental health and safety agencies. The EH&S Director oversees the university's Select Agents program. The Director, EH&S also oversees a team of EH&S technical professionals who 1) respond promptly to detected problems and undertake corrective action with relevant campus partners. This includes the authority to order immediate cessation of work activities (Stop Work) that present significant or immediate danger to life or property; 2) Collect, analyze, and disseminate appropriate data on health and safety at the university and utilize the data in recommending priorities and taking actions to promote environmental health and

safety programs; and 3) Provide guidance and technical assistance to university faculty, staff and students upon request. Members of the EH&S Office Team include the EH&S Officer, EH&S Specialists and Fire Safety Officer.

Fire Safety Officer

The Fire Safety Officer reports to the Director, EH&S and has responsibility for coordinating and managing the fire safety program. The Fire Safety Officer, in coordination with state and local fire officials, inspects all buildings on campus and off-campus leased-buildings annually to ensure compliance with international, state and Virginia OSHA fire code regulations. The Fire Safety Officer also accompanies the State Fire Marshall during the annual inspection of Residence Life facilities on campus. The Fire Safety Officer prepares reports indicating areas that are not in compliance with applicable regulations and recommends corrective actions to fix identified deficiencies and then follows up on corrective actions taken. Additionally, the Fire Safety Officer supervises the conduct of four annual fire drills. The Fire Safety Officer investigates fire-related incidences and prepares a weekly fire alarm report. The Fire Safety Officer analyzes quarterly fire alarm events for trends and potential unwanted alarms initiatives. The Fire Safety Officer oversees the maintenance and repair of fire extinguishers. The Fire Safety Officer serves as the Impairment Coordinator for Special Events. The Fire Safety Officer assists the Director EH&S with preparation of the annual Fire Safety Report submission to the Clery Report.

Fire Protection Systems Maintenance Supervisor

The Fire Protection Systems Maintenance Supervisor (FPSMS) reports to the Director, Operations & Maintenance and is the in-house technical expert for the University's engineered fire-protection systems and associated components. The FPSMS oversees inspection, test and maintenance of fire protection equipment that includes fire detection and suppression systems. The FPSMS serves as the University's Impairment Coordinator for planned and emergency maintenance on the fire protection system.

Institutional Biosafety Committee (IBC) Chair

The University IBC Chair functions as the Biological Safety Officer (BSO) and reports through the Vice Provost for Research to the Provost. The IBC Chair ensures the daily use of biosafety materials is performed in accordance with approved procedures and regulatory requirements. The IBC Chair has independent authority to stop unsafe operations and will periodically visit laboratories to ensure that laboratory standards are followed. The IBC Chair convenes the IBC at least annually.

Institutional Animal Care and Use Committee (IACUC) Chair

The IACUC Chair is appointed by the Provost of the University to ensure compliance with Federal regulations (Department of Agriculture 9 CFR parts 1 and 2; Public Health Service 99-158) concerning care and use of vertebrate animals in research and teaching activities. Any type of activity involving live vertebrate animals must be approved by IACUC prior to acquisition of animals or initiation of any research or laboratory exercise. Projects which may involve such activities include but are not limited to grant proposals, laboratory class exercises, thesis/dissertation research, and independent laboratory research. The IACUC considers OHS issues when conducting protocol reviews. The Committee specifically considers potential risk from infectious agents, recombinant-DNA molecules that are not exempt from federal guidelines, hazardous chemicals, radiation, and the use of animals that present unique hazards. The IACUC Chair convenes the committee semi-annually.

Institutional Radiation Safety Committee (IRSC)

The [IRSC](#) Chair is appointed by the Provost of the University to ensure compliance with Federal and state regulations concerning use of radionuclides in research and teaching activities meet the ALARA principle to ensure residual risk is As Low As Reasonably Achievable. This means we make every reasonable effort to maintain exposures to ionizing radiation as far below the dose limits as practical, consistent with the purpose for which the licensed activity is undertaken, taking into account available technology, economics and benefits to safety, health and society.

Emergency Management Team Chair

Response to emergency conditions will be directed by the Emergency Management Team appointed by the President of the University of William and Mary. The Chair of the Emergency Management Team (EMT) is empowered to augment the team with additional members depending on the nature of the emergency and will also be responsible for ensuring the means to document decisions made by the team under emergency conditions. The EMT Chair has the authority to make decisions which cut across ordinary lines of reporting relationships when necessary. For more information, go to the [Emergency Preparedness](#) web page.

Laboratory Safety Officer

The Director, EH&S, or designee, serves as the Laboratory Safety Officer and is responsible for developing and implementing university policies and procedures to ensure that all operations in university research and instructional laboratories, academic “shops” such as the art department and theater are conducted in a safe manner and in full compliance with relevant environment, health and safety

standards at local, state and federal levels. The scope of responsibility extends in an advisory capacity to radiation safety, animal care, human subjects, and biosafety. The Laboratory Safety Officer is also responsible for the safe handling, storage, and disposal of hazardous chemicals and biological substances in University laboratories at all locations. The Radiation Safety Officers retain responsibility for radioactive waste disposal but may be assisted by outsourced or contract personnel working under contracts that are managed by the Laboratory Safety Officer. The Laboratory Safety Officer is also responsible for the university's Select Agents program.

Radiation Safety Officer (RSO)

Under the direction of the Provost, and his/her delegates, the Radiation Safety Officer (RSO) ensures implementation of the university's [Radiation Safety Program](#). A full list of responsibilities is identified in the university's Radiation License which is maintained by the RSO.

Inspections

To ensure that the university's policy for a safe and healthy environment is carried out, members of the university EH&S Office conduct periodic inspections of campus facilities. The goal is to reduce accidents and injuries by eliminating safety and health hazards as well as unsafe practices among employees by conducting routine, scheduled inspections, to occur at least once per annum, of all University facilities. Inspections also ensure compliance with OSHA, VDH, NFPA, NIH, CDC, IFC, EPA and applicable state and local codes. Certain high-risk areas, such as laboratories, may be inspected more frequently as determined by the Director, EH&S. Written reports listing the findings discovered and recommended corrective actions are sent to the Department Head or supervisor in charge of the area. Typically, imminent hazards must be corrected immediately (usually within 5 working days), serious hazards within 30 days and non-serious hazards within 60 days. Re-inspections are conducted by the EH&S to verify that deficiencies are corrected as reported. Corrective actions are tracked to closure in the online [EH&S Corrective Actions Tracking System \(CATS\)](#).

Problems are resolved by written or oral consultation with employees, supervisors or department heads. In rare instances, it may become necessary to pursue matters to a higher level of authority. In these cases, conflicts may be brought before the respective dean, reporting deans, Vice Provost for Research, or Provost for resolution.

The State Fire Marshal's Office and the state's insurance carrier routinely inspect the university. Copies of their inspection reports go to the Director, EH&S for information and oversight of the follow-on corrective actions. The university is

further subject to unannounced inspections from the Virginia's Department of Labor and Industry (DOLI), Department of Human Resources Management (DHRM), Virginia Department of Health's (VDH) Office of Radiological Health (ORH), and the Department of Environmental Quality (DEQ). Copies of these agency reports are provided to the Director, EH&S for appropriate action.

In addition to the formal and semi-formal inspections of laboratories, residence halls, and academic and administrative areas, individual departments shall establish their own periodic inspection schedule. Assistance in resolving safety issues or correcting hazardous situations may be obtained from the EH&S Office upon request.

Stop Work Authority

The EH&S staff have the authority to shut down operations that are deemed to pose an imminent hazard to life, limb, property, or the environment. Any faculty or staff also has the right to voice a "cease and desist" order to stop action they observe that may lead to an immediate threat to life, limb, or property. Such an order will carry the authority of the Provost at the time it is issued. See: [Provost's Essential Matters Message](#)

Workplace Monitoring

The university EH&S Office has limited capability for in-house workplace monitoring. Tasks include grab samples for specified contaminants using color indicator tubes, moisture testing, oxygen & hydrocarbon monitoring, mercury vapor testing, noise sampling, temperature & humidity, asbestos and lead-based paint identification and ventilation flow rates. The EH&S Office utilizes commercial analytical labs for laboratory analysis of small-scale sampling tasks. The EH&S Office utilizes industrial hygiene consulting firms to perform large-scale sampling tasks and workplace monitoring tasks that extend beyond internal capabilities.

Written Safety Policies and Procedures

Written policies and procedures set standards for safe work practices, establish a basis for disciplinary actions, and demonstrate good intent and program control to regulatory agencies. Safety policies and procedures have been written for employees. These supplemental documents may be found on the University EH&S web site: <http://www.wm.edu/facman/safety/index.php>.

The Director, EH&S uses lessons learned, as well as input from affected departments and the various committees in developing safety procedures and guidelines. To ensure safe work practices in all campus activities the Director, EH&S makes certain that appropriate agency environment, health and safety

rules and regulations are written, published, and communicated to employees and students.

General Safety Training

Ensuring that employees and students receive proper safety training is an important function of the safety program. All W&M employees and students must be trained in the proper use of equipment and materials before using them. The EH&S Office is responsible for ensuring that employees are adequately trained in safety practices. Faculty/Principal Investigators (PIs) are responsible for training students exposed to hazardous conditions associated with their academic curriculum and/or research. The EH&S Office works with academic departments to ensure that students receive training. The PIs are responsible for maintaining their training records. The Human Resources Department provides hazard communication training to new employees during their new employee orientation using materials provided by the EH&S Office.

Several safety-training programs are OSHA-mandated such as Hazard Communication, Bloodborne Pathogens, Respiratory Protection, Hearing Protection, Lockout/Tagout, Confined Space, Asbestos Management, and Laboratory Safety. These programs are developed and taught by members of the university EH&S Office or by third party trainers contracted by the EH&S Office. Training is documented and conducted by various means to include classroom and online training. Supervisors are expected to supplement formal EH&S Office training with “toolbox” training at weekly work group meetings.

Training is to be conducted when a new employee is hired or transferred to a new job, when new equipment is installed, new task is assigned, or any time a lack of employee knowledge or skill may create an unsafe working environment. Annual refresher or special training may also be required based upon EH&S guidelines. For example, respirator use requires annual training and special training is required whenever respirators, procedures, or physical features change. Supervisors are responsible for ensuring that employees possess the necessary knowledge and skills to safely operate machinery and equipment in their area and that their employees have the training needed to carry out their assigned tasks.

Research Compliance Training

The [Collaborative Institutional Training Initiative \(CITI\)](#) provides compliance committee members (IACUC, PHSC, and IBC, RCR), principal investigators, students, and staff with on-line instruction programs that documents compliance with various federal mandates. Completion of the Humane Care and Use of Laboratory Animals and the Occupational Health and Safety modules is required of all NEW IACUC members, as well as NEW faculty, students, and staff

involved in animal research whether the research is funded or unfunded. Protection of Human Subjects training completion is required by all faculty, students, and staff involved in human subject research **prior** to commencement of research whether the research is funded or unfunded. The CITI completion certificate must be attached to a research protocol in order for the committee to consider it for review. [Responsible Conduct of Research Training](#) is required for NSF funded research. All undergraduate, graduate students and Post-Docs supported by a NSF grant must complete the RCR training. The PI of record will certify personnel have been trained. CITI provides basic Responsible Conduct of Research (RCR) modules.

Medical Surveillance and Evaluation

All employees working with hazardous chemicals and/or exposed to physical hazards (noise; non-ionizing radiation) will be provided an opportunity to receive medical attention, including any follow-up examinations which an examining physician determines to be necessary, under the following conditions:

1. Whenever the employee develops signs or symptoms associated with a hazardous chemical to which the employee may have been exposed in the laboratory.
2. When exposure monitoring reveals an exposure level routinely above the action level (or PEL) for an OSHA regulated substance for which there are exposure monitoring and medical surveillance requirements.
3. Whenever an event takes place in the work area such as a spill, leak, explosion, or other occurrence resulting in the likelihood of a hazardous exposure.

All medical examinations and consultations shall be performed by or under the direct supervision of a licensed physician and shall be provided without cost to the employee, without loss of pay, and at a reasonable time and place.

Emergency Medical Assistance

If you are injured or become acutely ill at work, your first priority is to get medical attention for your injury or illness. Emergency Medical Assistance will be provided by calling 911. For more information, refer to the [Occupational Illness/Injury Brochure](#).

Accident/Incident Reporting

The success of the investigation process is largely dependent upon how timely the accident or incident is reported. The more time that elapses between the date of the incident and when it's reported, the harder it is to collect accurate information, identify root causes, and determine effective solutions. All College of William and Mary employees are expected to report an accident/incident within

24 hours of its occurrence. The EH&S Department will then determine if an investigation is warranted based upon guidelines that are provided on the [EH&S Accident & Incident Reporting web page](#).

Accident/Incident Investigations

The university's EH&S Office, in coordination with the Workers' Compensation Specialist, assists supervisors with the investigation of work-related accidents and incidents, to include determining causes, and recommending corrective actions to eliminate or minimize the potential reoccurrence of an accident. All employee accident reports are filed with the Human Resources Department and a copy of the First Report of Accident/Injury is sent to the EH&S Office for review. Emphasis is placed on the importance of reporting all accidents and incidents to supervisors, whether or not they result in personal injuries or property damage. A "near miss" can alert a supervisor to a dangerous situation and allow for corrective action before a serious accident occurs. Accident investigations are based on fact-finding, not fault-finding.

Based on the investigation, the following actions may be taken:

- A work order may be executed to make appropriate repairs to eliminate or control a hazard.
- The employee may be counseled about safe practices.
- A safety program may be created to include procedures and training.
- Personal protective equipment may be issued.

Record keeping

Environment, health and safety regulatory agencies require employers to maintain certain records. The maintenance of good records is important in showing control over safety programs, defending the University against lawsuits, monitoring the effectiveness of the safety program, analyzing accident trends, and justifying program expenditures. In coordination with appropriate program managers, department heads are responsible for assuring that employee training records, inspection reports, accident investigations, industrial hygiene reports, environmental reports, and hazardous waste manifests are maintained. When appropriate, copies of these reports will be filed in the EH&S Office, the Risk Management Office, the Human Resources Office, or the office of the appropriate program manager/supervisor. The EH&S Office maintains copies of records listed in Appendix A.

The Human Resources Department maintains records on occupational injuries and illnesses (OSHA form 300a), and any associated medical records.

Program Monitoring and Evaluation

The Director, EH&S, by authority from the Provost in the university EH&S Policy, monitors routine activities of the safety program to ensure they are carried out as planned. The purpose of monitoring is to identify potential problems so that corrective actions can be taken. The status of each of the following activities are routinely checked:

- Inspections of facilities and equipment at the agreed upon frequency.
- Re-inspections are conducted in a timely manner to monitor progress toward compliance.
- Accident and incident investigations are fully completed.
- Proper training is given when new employees are hired, their jobs or responsibilities change, or when other circumstances dictate.
- Rules and regulations are updated as needed.
- Required records are kept up-to-date.
- Regular safety meetings are held.

The Director and Associate Vice President, Facilities Management periodically evaluate the direction, effectiveness, and efficiency of the EH&S program. Since the goals of the EH&S program are to reduce the number and severity of illnesses and injuries and reduce damage to, or loss of, property, the Director and other appropriate members of the EH&S Office team periodically examine accident reports to compare current statistics with past performance indicators. This data may point out areas of program success or areas where improvement is needed and can be used to evaluate the effectiveness of the safety program. Additional funds, staffing, or a change in direction may be indicated.

Laboratory Safety

Chemical Hygiene Plan

The [Chemical Hygiene Plan](#) constitutes the “[Laboratory Safety Plan](#)” as required by the Occupational Safety and Health Administration’s Laboratory Standard. The goal of the Plan is to reduce illness and injuries from exposure to hazardous chemicals used in laboratories. The plan describes the hazards associated with various classes of chemicals, safety procedures, personal protective equipment, safety equipment, and emergency procedures. The plan is reviewed and monitored by the Vice Provost, or Vice President, for Research.

The Director, EH&S is qualified by training and experience to provide guidance in chemical and laboratory safety. In accordance with the Chemical Hygiene Plan appropriate Deans, Chairpersons, and Directors will ensure inspections are conducted annually for laboratories under their cognizance.

The Director, EH&S provides the following general principles in the Chemical Hygiene Plan for working with laboratory chemicals: 1) **Minimize Exposure** to particular chemicals by inhalation, ingestion, and skin contact; 2) **Minimize Risk** by understanding the known significant hazards in the laboratory and the special precautions that must be taken; 3) **Provide Adequate Ventilation** with the use of fume hoods, exhaust fans, or other ventilation devices; 4) **Observe Exposure Limits** including the Permissible Exposure Limits (PELs) of OSHA 29 CFR 1910.1000, as amended by VOSH (Virginia Occupational Safety and Health regulations), and those outlined on the Manufacturer's Safety Data Sheets (MSDS); 5) **Hazardous Waste Disposal** will be accomplished according to material-specific guidelines established for each laboratory.

The Director, EH&S will assist administrators, faculty, and other personnel to develop and implement appropriate chemical hygiene policies and practices, to include safety precautions, adequate facilities, training, disposal of laboratory chemicals, and inspections as requested.

Training

The Chemical Hygiene Plan and Hazardous Waste Program provide information and training programs for all laboratory employees (including student employees), and specifies required training for students. Initial and annual refresher training is required for all laboratory employees. The PI in charge of the laboratory normally provides orientation training prior to initial work and any new exposure situations. The EH&S Office assists with training upon request from the PI.

Laboratory Safety Equipment

The safe operation of a laboratory depends on the proper use of laboratory safety equipment. Chemical fume hoods, glove boxes, biological safety cabinets, autoclaves, showers, eye wash stations, first aid kits, fire extinguishers, fire sprinklers, explosion proof refrigerators, and flammable storage cabinets are examples of typical laboratory safety equipment. This equipment is designed to protect personnel from injury and minimize damage if an accident occurs. Chemical fume hoods are inspected annually by the EH&S Office staff or an approved contractor. Safety showers and eyewash units are located in all laboratories using hazardous chemicals. The EH&S Office, assisted by Facilities Management, inspects and tests showers and eyewash units annually. Laboratory personnel test eyewash units weekly. Each laboratory is equipped with a spill kit. First aid kits are recommended as standard equipment in every laboratory. All safety equipment is purchased and located in coordination the EH&S Office.

Adequate equipment to fight or prevent fires is essential to safety in a laboratory. Portable ABC fire extinguishers are located in all laboratories. The extinguishers

are inspected monthly by a contractor managed by the EH&S Office Fire Safety Officer. Flammable liquids storage cabinets and explosion proof refrigerators are located in various laboratories. Other equipment is the responsibility of the Department.

[Personal protective equipment \(PPE\)](#) includes safety glasses, laboratory coats, aprons, goggles, face shields, gloves and respirators. Departments supply all PPE for employees and all but goggles for students. Students (who are not employees) are responsible for purchasing their own safety goggles before working in laboratories or other areas with chemical or physical hazards. These goggles must meet the requirements of ANSI Z87.1. Refer to [Safety Glasses](#) guidelines.

Chemical Procurement and Storage

Section IX, Procurement/Storage, in the Chemical Hygiene Plan provides guidance on chemical storage compatibility and requirements for Laboratory Supervisors to periodically inspect the condition of containers.

Spill Supplies

Spill kits are available in each lab or in the hallway near the emergency shower. In addition the EH&S Office maintains some spill supplies, to include a mercury spill kit. The properties and quantity of the spilled chemical dictate whether laboratory personnel can control the spill or circumstances require emergency assistance. The Chemical Hygiene Plan provides guidance for laboratory users, but if laboratory personnel can not control the spill safely they should call W&M Police for emergency response assistance.

Hazardous Materials Emergency Response Plan

The [Hazardous Waste Management Program](#) contains guidance for response to hazardous material spills. Additional response guidance is provided in the [W&M Emergency Response Guide](#). The [Fire and Life Safety Program](#) provides emergency response guidance to fires. This [Spill Prevention, Control, and Countermeasures \(SPCC\) Plan](#) provides response guidance on oil spills and is available upon request to the Director, EH&S. The EH&S Office provides oversight for the College's Spill Prevention Control and Countermeasures Plan (SPCC). The [ISC Hazardous Materials Response Plan](#) provides emergency response procedures specific to the unique chemical, biological, and radiological hazards encountered at the ISC. All personnel involved in the transportation, handling, storage, use, disposal, and management of hazardous materials must be familiar with these plans. Laboratory Personnel are trained to appropriately deal with hazardous material emergencies and are expected to know when emergency response is necessary. When emergency response is necessary, it is the responsibility of the Laboratory Supervisor, or other department

representative, to advise assisting agencies on the character, amounts, and source of hazardous materials.

Radiation Safety

The purposes of the Radiation Safety Program are to ensure that faculty and students use radioactive materials and equipment safely in University laboratories and keep exposures to radiation at a level that is as low as reasonably achievable (ALARA). Further, state and Federal regulations require that the use of radioactive materials be licensed, radiation-producing equipment be registered, and that both be carefully monitored. Specific safeguards and procedures pertaining to the use of radioactive materials are contained in the university [Radiation Safety Plan](#) ns and the university's state license. The university appoints a Radiation Safety Officer (RSO) who is responsible for the implementation and oversight of radioactive materials use in accordance with the plan and license. In addition, two alternate RSOs are appointed to assist the RSO in the conduct of the duties.

Radioisotopes Users Committee

The RSO established a Radioisotopes Users Committee. This Committee functions as a mutual-aid and advisory group in order to support the safe and effective use of radioisotopes within the Biology department.

Radiation Safety Supervisors (RSS)

The Departmental RSS is an Approved User who oversees the use of radioactive materials and ionizing radiation producing devices in his or her lab. Each RSS who desires to purchase and use radioactive materials and/or ionizing radiation producing devices in classroom or research, sponsored or non-sponsored, must submit an application to their respective RSO for approval.

Approved Users

Individuals who desire to use radioactive materials or radiation-producing devices must be authorized by the RSO, or they must work under the direct supervision of an approved user. All persons who work in or frequent any designated radioisotope work area must successfully complete the Radiation Safety Course at least once per year. This three-hour course is offered as needed at the beginning of the Fall, Spring, and Summer academic sessions by the RSO or RSO Alternate. The training contains specific instruction both in the theory and practice of handling radioactive materials. Records of attendance in the course and evidence of subject mastery by written examination is collected and maintained by the RSO for at least three years.

Analytical X-ray Machine Users

All individuals independently operating analytical X-ray equipment shall be designated as “Restricted Users” and shall receive instructions in and demonstrate ability in:

1. General properties of ionizing radiation.
2. Principles of radiation detection.
3. Radiation hazards associated with the use of the equipment.
4. Biological effects of ionizing radiation.
5. Procedures to minimize exposure.
6. Proper operating procedures for the equipment.
7. Purposes and functions of the radiation warning and safety devices incorporated into equipment.
8. Proper procedures for reporting an actual or suspected over-exposure.

Ability shall be demonstrated by passing a written examination administered by the Instrument and Sealed Source Radiation Safety Officer. Exceptions to radiation safety training will not be granted because of previous education, training, or experience. For more information, refer to the VDH Radiological Health department’s [X-Ray Guidance Documents](#) and W&M [Analytical X-Ray Machines](#) guidelines.

The ALARA Program

University management is committed to keeping occupational doses and doses to members of the public “As Low As Reasonably Achievable” (ALARA). Thus the university has adopted an ALARA program to reduce its employee’s exposure to radiation well below the levels permitted by regulatory agencies. The RSO prepares an annual ALARA report for submission to the Provost with input from various alternate RSOs who oversee analytical x-ray equipment and sealed sources.

Non-ionizing Radiation Devices

The EH&S Office in coordination with the respective faculty oversees development of safety practices for the use of non-ionizing radiation devices, to include lasers, nuclear magnetic resonance units, ultraviolet light, optical wireless communications devices, infrared light emitting diodes, welding, radio wave and microwaves. Refer to Laboratory User Standard Operating Procedures for further information.

Laboratory Biosafety

The University follows [NIH Guidelines for Research Involving Recombinant or Synthetic Nucleic Acid Molecules](#) and [CDC Biosafety in Microbiological and Biomedical Laboratories \(BMBL\) 5th Edition](#) for safe methods for handling Biosafety Levels 1, 2 and 3 infectious agents in the laboratory. Protection of personnel is provided by good microbiological techniques, the use of appropriate safety equipment, and proper waste management practices. Instructors are responsible for ensuring that safe practices are followed in classroom activities and in academic laboratories.

Animal Care and Use

All independent faculty research with vertebrate animals, including pilot experiments conducted to obtain data necessary to the preparation of an extramural grant proposal, and laboratory exercises require the approval of the experimental protocols and husbandry methods by the IACUC before being initiated. The IACUC also assesses the potential risk from infectious agents, recombinant-DNA molecules that are not exempt from federal guidelines, hazardous chemicals, radiation, and the use of animals that present unique hazards. Potential risks or issues that may arise are referred to the IBC and/or the Laboratory Safety Officer for further review. For more information, refer to the IACUC [Policy and Procedures for Research and Teaching Involving Live Vertebrate Animals](#) and the [Occupational Health and Safety Program for Animal Care and Use](#).

Fire Safety

The [Fire and Life Safety Program](#) provides instructions for identifying, monitoring and addressing fire safety issues at the University. The plan describes emergency procedures, building evacuation drills, inspections, training, and procedures to use in the event of a fire.

Fire Drills

The Resident Life Area Directors, in cooperation with the EH&S Fire Safety Officer and W&M Police, conduct fire drills in the residential halls once each semester and during each summer session. Fire drills in academic and administrative buildings are conducted as directed by the Emergency Management Team under the supervision of the Fire Safety Officer.

Fire Suppression Equipment

The University maintains various fire suppression systems in each building to include: fire extinguishers, sprinkler systems, standpipes and fire hydrants. The

Fire Safety Officer is responsible for providing training, inspecting, testing, and repair of fire extinguishers. Fire extinguishers are inspected monthly and tested annually. The Fire Safety Officer maintains an inventory of all fire extinguishers on campus. While readily available, no one is encouraged to use a fire extinguisher unless they have received training in its use and are required by their job task, i.e. fire safety watch. Under no circumstances is anyone to endanger himself/herself or others in an attempt to extinguish a fire.

Fire protection systems are inspected every year for water flow by a contracted firm under the guidance of the Fire Protection Systems Maintenance (FPSMS) Supervisor. Fire suppression systems in the kitchens are inspected and cleaned by an outside contractor on a quarterly basis. Hoods and ducts are also cleaned quarterly. Filters are inspected and changed as needed. Fusible links are replaced every six months. Fire alarms are tested annually by an outside contractor. The FPSMS is responsible for ensuring inspection, test and maintenance (ITM) of engineered fire protection systems are completed as prescribed and maintains records of ITM results.

Reports

Findings concerning unsafe conditions are reported to appropriate supervisors in the inspected building and when appropriate to the [Facilities Management Work Control Section](#) for correction. EH&S Team members conduct re-inspections as needed. Findings not corrected are reported to the Director, EH&S. Findings concerning unsafe acts are reported to the individual and his/her immediate supervisor.

Evacuation Routes

Evacuation route signs are posted for each floor of every building. Individual evacuation plans may also be developed for any employee who has a disability and who may require special assistance in the event of a building evacuation. Supervisors may identify Individuals requiring assistance, or individuals may self-identify, to the EH&S Office or Human Resources. Those offices will coordinate the development of an individualized evacuation plan. In addition, a list of employees and students who may require assistance during an emergency is maintained by building based upon a list provided by Disability Services. The list is posted in the "Knox Box" located outside each building, normally in the loading dock area. The Williamsburg Fire Department is briefed on the purpose and content of these boxes and has access to them. The content of these boxes will be reviewed annually by the Fire Safety Officer in coordination with the Director, EH&S.

Occupational Safety

Lockout/Tagout

The [Lockout/Tagout](#) program ensures that equipment is isolated from potentially hazardous energy, and locked and tagged out prior to maintenance. The program includes procedures for shutdown, equipment isolation, lockout/tagout, release of stored energy, verification of isolation, and training. Tags, individual locks, gang locks, valve locks, plug locks, and chains are available in the Facilities Management Stockroom. General training is provided by the EH&S Office. Equipment-specific training is provided by the equipment owner/supervisor. Equipment-specific lockout/tagout procedures are located on the FACMAN G-drive in the Electrical folder. Periodic inspections are conducted by the EH&S Office to ensure compliance with lockout/tagout procedures. For more information, refer to [FM Directive 781 - Lockout/Tagout Program](#) and its [Attachment](#). Refer to [FM Directive 786 – Electrical Safety Program: Flame Resistant Clothing Requirements](#) and its [Attachment](#).

Hot Work

Welding, cutting, and brazing are hazardous activities that pose a combination of both safety and health risks to workers. W&M developed a hot work permit program to protect workers from the hazards associated with these operations. It is [FM Directive 788 – Cutting, Welding, Grinding and Brazing Hot Work Permits](#). The program covers fire prevention, confined spaces, protection of personnel, and ventilation. In conjunction with Facilities Management, the EH&S Office manages the hot work program for the University.

Confined Spaces

Procedures have been developed to allow workers to safely enter confined spaces. [Confined spaces](#) normally have small openings, are not meant for human occupancy, and may contain a hazardous atmosphere (e.g., manholes). Before entering a confined space the atmosphere is tested for oxygen, combustible gases, and toxic gases. The Senior Safety Engineer or other qualified and designated individual performs testing. All personnel involved in confined space work receive training in hazard recognition, personal protective equipment, communications equipment, and rescue procedures. A qualified person must complete an entry permit before entering the confined space. Members of the Safety Office visit sites to ensure that an entry permit has been completed and workers are wearing proper rescue equipment. For more information, refer to the [Confined Space Entry Program](#).

Materials Handling and Storage

Procedures have been written for materials handling and storage. The EH&S Office conducts training classes on proper lifting techniques and back injury prevention. An adequate number of materials handling equipment are present such as carts, drum trucks, lift gates, and hand trucks. The EH&S staff review

tasks to ensure that materials are being handled properly. An ergonomics approach to materials handling is also actively pursued. Examples include reducing the size of the load, changing the height of a pallet or shelf, or installing a mechanical lifting aid. The EH&S Office also provides an information sheet on [Manual Lifting](#) and [Loading/Unloading Trucks](#).

Powered Industrial Trucks

Only qualified operators who have received training in safe operations by licensed instructors are permitted to operate powered industrial trucks [including forklifts] on campus. The Senior Safety Engineer conducts the training. The training program consists of a lecture on proper procedures, videotape, and an evaluation of driving skills. Authorized drivers must pass a driving test. Powered industrial trucks are inspected before operation and receive regular maintenance as recommended by the manufacturer.

Pressure Equipment

A licensed state inspector inspects all pressure vessels such as boilers yearly. Facilities Management maintains the inspection records of those pieces of machinery. The Associate Director, Utilities ensures compliance with DOLI/VOSHA regulations through periodic inspections and maintains records of current inspections and acts as liaison to the Virginia Department of Labor and Industry inspector.

Vehicles

All vehicles are inspected routinely to ensure that they are in safe operating condition. Each University-owned vehicle is equipped with an accident reporting packet that includes a [Vehicle Accident Reporting](#) brochure. The university established guidelines for the rental/use of passenger vans. Those requirements are set forth in the [Van Rentals](#) guidance. [Van Safety training](#) is required for anyone who plans to operate a van for work or recreation activities.

Violence in the Workplace

The university endeavors to provide faculty, staff, students and visitors a safe place in which to work, study and live. Individuals with specific concerns should contact either the Employee Relations Manager in Human Resources or the W&M Police for assistance. Refer to [DHRM's Workplace Violence Policy 1.80](#) for more information. For more information, refer to W&M's ["How You Can Help"](#) web page.

Contractors and Vendors

Contractors are expected to abide by applicable federal and state regulations while on campus. Contractors must take steps to protect the health and safety of employees, students, and visitors while performing their work. Contractors must enforce safety rules among their employees and obey University safety rules. The contract between the University and a contractor contains safety compliance as an unalterable condition. Each W&M contract project manager is responsible for ensuring compliance with the contract. Prior to a contractor beginning work, a pre-contract performance conference is held. Special safety conditions or restrictions concerning the job are discussed at this time. For more information, refer to the university's [Safety Guide for Contractors and Subcontractors](#).

Ergonomics

The university recognizes the importance of designing the job and workplace to fit the worker. This allows work to be done with a minimum of physical and mental stress. Improving the design of the workplace can improve employee morale, increase productivity, and reduce injuries. The EH&S Office encourages employees who may have an ergonomic concern to complete the [Ergonomic Self-Assessment Checklist](#). If concerns are not resolved within 30 days after making changes based upon the self-assessment, the EH&S Office may provide [ergonomic review](#) upon request.

Occupational Health

In addition to making the workplace safe for workers, the EH&S Office works with supervisors and management to ensure that the workplace is free from recognized health hazards.

Industrial Hygiene

The EH&S Office monitors the workplace to determine conditions that may have an adverse effect on health, are uncomfortable or irritating, or that may affect the ability of workers to perform their normal tasks.

Indoor Air Quality

Occupational Health and Safety Administration recommends temperature control in the range of 68-76 degrees Fahrenheit and humidity control in the range of 20%-60% for occupied space and an exchange rate of 5 times per hour. The EH&S Office will respond to indoor air quality concerns. Facilities Management works with the EH&S Office in alleviating air quality concerns. If indicated, the EH&S staff can contract for detailed indoor air quality tests.

Hearing Conservation

In accordance with the OSHA (Occupational Health and Safety Administration) Occupational Noise Exposure Standard, employees whose job tasks require them to be exposed to sound levels at or above an eight hour time-weighted average (TWA) of 85 decibels (dB) or more, must be included in William and Mary's [Hearing Conservation Program](#). The EH&S Office ensures employee hearing tests (audiograms) are conducted on an annual basis. In addition, EH&S coordinates hearing device fit testing with enrolled employees to ensure each individual has ear plugs that are comfortable, fit properly and provide optimal protection.

Respiratory Protection

William & Mary has a respiratory protection program to permit employees to work safely in hazardous atmospheres. This is accomplished by ensuring that employees are properly trained, the correct respirator is selected, employees are medically able to wear respirators, and respirators are cleaned and maintained properly. Respirators are issued to prevent overexposure to chemical hazards and provide a continuous flow of clean air. The Senior Safety Engineer supervises the respiratory protection program and decides the need and type of respirator used by employees. Only NIOSH approved respirators are used. The Senior Safety Engineer ensures that respirators fit properly and that employees are trained on the proper selection, use, and care of respirators. A physician determines if employees are physically able to perform the work while wearing a respirator. This review includes a brief health history and a pulmonary function test. The physician can also perform the respirator fit test if desired. For more information, refer to the [Respiratory Protection Plan](#) and the [Respirator Qualification Guidelines](#).

Employee Assistance Programs

W&M provides several options for Employee Assistance through employee medical plans and the Employee Assistance Program. For more information, refer to the [Employee Assistance Program](#) web page.

Asbestos Abatement

The Director, EH&S is the university's Asbestos Manager. All buildings on our campus are presumed to contain asbestos containing material (greater than 1% asbestos) unless otherwise identified in writing by the Asbestos Manager. However, the simple presence of asbestos containing materials is not in and of itself a health hazard. Typical substances containing asbestos include air duct

insulation, common mud, acoustical or decorative surfacing materials, fireproofing, textured paints, plaster, cement wallboard, chalk boards, floor tile etc.

Spray applied asbestos fireproofing was banned in 1973. Mechanical system asbestos insulation was banned in 1975. Acoustical and decorative uses of asbestos were banned in 1978. Other asbestos containing items have not been banned, and all buildings may contain these asbestos materials. For more information, refer to the Environmental Protection Agency's [U.S. Federal Bans on Asbestos](#).

The objective of the program is to safely maintain or remove Asbestos Containing Material (ACM) and presumed Asbestos Containing Material (PACM) in University buildings. The Director, EH&S oversees procedures such as training; record keeping, and waste storage and pickup. A contracted licensed asbestos abatement firm performs the university's asbestos removal projects. Notification is posted when a large abatement project is planned.

When building repair, maintenance or renovation activities are planned which could impact on ACM/PACM, the supervisor in charge provides a detailed assessment of the project area to the Director, EH&S and the licensed asbestos abatement firm to see if any ACM/PACM may be encountered. For more information, refer to the [Asbestos Management Plan](#).

Bloodborne Pathogen Exposure Control Plan

Occupational exposure for Bloodborne Pathogens is determined by job classification. Enrollment in the Bloodborne Pathogen Exposure Control Plan is required whenever there is a reasonable expectation there may be contact with blood or other potentially infectious materials by employees. Vaccinations and a training program are also provided for those enrolled in that program. For more information, refer to the [Bloodborne Pathogens Exposure Control Plan](#).

Pesticides

Pesticides are used for various agricultural and other reasons and can pose a health risk to humans if not handled and used properly. For agricultural applications, the Facilities Management Landscape Services group employs spray technicians. In addition, the Operations & Maintenance (O&M) division contracts pest control services for elimination of insects both inside campus facilities and those that threaten the structural integrity of the facilities. O&M pest control services contracts conform to requirements in the University's Integrated Pest Management (IPM) Plan. The IPM contract administrator is a member of the O&M staff. The State of Virginia certifies all pesticide applicators who perform tasks at the University. Pesticide applicators use the lowest toxicity

material that will do an adequate job. Restricted use pesticides and pesticides that are carcinogenic are not used at W&M. Pesticides are properly stored according to state regulations. Eyewash units and emergency showers are located in storage areas. Warning signs are posted when pesticides are used. Applicators wear proper personal protective equipment to include respirators, goggles, and protective clothing as recommended by the manufacturer. The Senior Safety Engineer trains applicators in the safe use of respirators and other personal protective equipment. The Senior Safety Engineer also trains users on the hazards associated with the use of pesticides.

Hazard Communication Standard

The University of William and Mary provides a hazard communication program administered by the EH&S Office. Basic components of this program include:

- Hazardous Chemical Inventory List
- Material Safety Data Sheets (MSDS)
- Labels and other Forms of Warning
- Employee Information and Training
- Non-routine Tasks
- Unlabeled Pipes
- On-site Contractors

For more information, refer to the [Hazard Communication Program](#).

Safety Data Sheets (SDS)

All departments that use hazardous chemicals at the University are required to make copies of their Safety Data Sheets (SDS) available to their employees. The EH&S Office provides an electronic [Safety Data Sheet library](#) derived from the annual chemical inventories provided by the faculty. The EH&S Office has the capability to download the SDS library onto flash drives for distribution to emergency responders. Instructions for accessing the online SDS Library are posted on the back of every lab door. For security reasons, access to the library requires a University user name and password.

Chemical Inventory

All departments that use hazardous chemicals are responsible for maintaining chemical inventories. The EH&S Office maintains electronic copies of the inventories on file and staff periodically inspect inventories to verify that these inventories are current.

Labeling

It is the responsibility of department supervisors to check incoming chemicals to ensure that they are labeled properly in accordance with the [Global Harmonization System](#). Chemicals will not be accepted unless they contain the name of the chemical, hazard warnings, and the name and address of the manufacturer. Department supervisors will also ensure that secondary containers are properly labeled. All containers used for temporary storage that are not under the immediate control of the person using them, must be labeled. Members of the EH&S Office periodically inspect departments to ensure that labeling requirements are being met.

Training

Employees exposed to hazardous chemicals outside of laboratories receive an overview of the [Hazard Communication](#) Program, physical and health hazards associated with chemicals, and methods to reduce exposure. Training is provided at the time of the employee's initial assignment and whenever a new hazard is introduced into the workplace.

Environmental Health

The environmental program strives for a healthier and cleaner environment through programs of toxic pollution reduction and prevention; air, water, and solid waste management; recycling; and energy efficiency. The [Hazardous Waste Management Program](#) provides details on those programs.

Hazardous Chemical Waste

The University generates a wide variety of hazardous waste. The University currently maintains a small quantity generator status. Activities generating hazardous waste include the Chemistry, Biology, Geology, Kinesiology, Applied Research Center, Applied Sciences departments, Art, Theater, and Facilities Management activities. The University developed a hazardous waste management program to ensure that hazardous waste is handled properly. The EH&S Office makes every effort to recycle or reuse hazardous materials in lieu of disposal. Hazardous waste is disposed of through a licensed disposal firm. For more information, refer to the [Hazardous Waste Management brochure](#) and/or [Empty Chemical Containers Disposal guidelines](#).

Radiological Waste

All radioactive material with a half-life of 90 days or less shall decay-in-storage for at least 10 half-lives before disposal in normal trash. Other radioactive waste may also be stored for eventual removal from the university by a certified radioactive waste transporter.

Regulated Biological/Medical Waste

This type of “regulated waste” refers to waste that is potentially contaminated with bloodborne pathogens unless it has been sterilized or autoclaved. Regulated medical waste also includes discarded cultures, stocks, specimens, vaccines and associated items containing microorganisms and biologicals which are potentially pathogenic to healthy humans; wastes from the production of biologicals and antibiotics that may be contaminated by organisms potentially pathogenic to healthy humans; wastes containing human blood, human blood products such as serum and plasma, and other items contaminated by these substances. All human anatomical wastes including: human tissues, organs, body parts, or body fluids; sharps that may have been contaminated with organisms potentially pathogenic to healthy humans, and all sharps such as needles, syringes, and scalpels whether they were contaminated or not; animal carcasses, body parts, bedding and related wastes when the animals (which are used for research, in vivo testing and production of biological materials) are intentionally infected with organisms potentially pathogenic to healthy humans are also considered regulated waste. Finally, any residue or contaminated soil, water or other debris resulting from the cleanup of a spill of any of these materials; and, any solid waste contaminated by or mixed with materials these materials is regulated waste. These types are disposed of through a regulated medical waste transporter to a certified medical waste treatment facility. For more information, refer to the [Regulated Medical Waste Management Plan](#).

Fluorescent Lamps

All waste fluorescent Lamps generated across The University of William and Mary are transported to the Carpentry Shop, where they are crushed and ultimately taken offsite by a registered transporter as a universal waste for reclamation or disposal. For more information, refer to the [EH&S Recycling](#) web page.

Emergency Preparedness

Emergency Response Procedures

William & Mary is committed to providing a safe and secure environment for its students, faculty, employees and visitors to learn, teach, work and enjoy our beautiful campus and all it offers. In pursuit of that goal the university takes a comprehensive approach to protecting the university community and preparing for any emergency. W&M offers [training](#) intended to provide an introduction to the elements of emergency management for your workplace and home. It covers why emergency preparedness is important to you; the various types of risks, hazards and vulnerabilities; different phases of Emergency Management and how you are involved in each; emergency communications; and additional

resources available to you. Students, faculty and staff can download the [W&M Emergency Response Guide](#) app on their smartphones and other mobile devices, to know what to do during an emergency such as an earthquake, illegal activity, fire, severe weather or after a sexual assault. *Crisis Manager* is a free app designed to help keep you safe and well on the W&M campus by making emergency information and contacts mobile and accessible on Android and iOS devices.

Emergency Notifications

The ability to deal with any incident depends on good communication. The university is committed to informing the community of an emergency, disaster or potential disaster immediately upon determining the nature of the emergency. Using the university's [emergency notification systems](#), the Emergency Management Team will immediately notify the campus community of a confirmed emergency or dangerous situation that presents an immediate threat to the health or safety of the community. An emergency notification list for department faculty and other key personnel is included in the Knox Box at buildings equipped with a Knox Box. [After-Hours Emergency Contact Phone Numbers](#) for key W&M personnel, as well as local, state, and national agencies are also maintained at the W&M Police Dispatcher's work station.

Student Safety

Although OSHA regulations only cover employees, W&M extends its comprehensive safety program to cover students as much as possible. At a minimum, the university has a moral obligation to ensure that the health and safety of students is not compromised. Laboratories and other work areas occupied by students must comply with applicable EH&S requirements. Academic department heads are responsible for assuring that adequate safety equipment and personal protective equipment is designated and available for use in these areas. Faculty members are responsible for the safety of their students while in class and while working in the laboratory.

Student Safety Procedures

Several procedures concerned with student safety have been written. The Director, EH&S works closely with the Vice Provost for Research and Graduate/ Professional Studies and individual departments to assure that adequate safety procedures for students who use hazardous chemicals and equipment are in place. The following safety practices have been developed to protect students:

- Students using analytical x-ray equipment are required to read the [Analytical X-ray Safety Manual](#) and pass a test before using the equipment.

- Students using radioisotopes are required to read the [Radiation Safety Manual](#), attend training provided by the Radiation Safety Officer (RSO) or Alternate RSO and pass a test.
- Currently, chemistry students must be trained by their professors in basic safety procedures before the first lab and receive a handout about general safety practices. Laboratory safety procedures are included in the Chemical Hygiene Plan. This plan is available to all professors and students who use chemicals. The EH&S Office provides tailored laboratory and fire safety training at the end of May/early June for summer laboratory workers. In addition, the EH&S Director provides safety training to the APSC 604 class.
- Students working with lasers must receive laser safety training from their PI's and read the laser-specific standard operating procedures.

Departments in collaboration with the EH&S Office should develop specific safety guidelines for specialized laboratories, health clinics, art studios, physical education activities, and other areas using hazardous materials and/or equipment that present physical hazards.

Personal Protective Equipment

Students using hazardous materials or equipment are required to wear the same personal protective equipment as that used by employees. For example, students in chemical laboratories must wear appropriate eye protection. The University also provides students working in the animal care facilities voluntary-use respirators upon request. The EH&S Office also provides disposable lab coats for specific classes such as microbiology and human anatomy and a lab coat laundry service is provided for student research assistants. Students should refer to the [Personal Protective Equipment \(PPE\) Matrix](#) for additional guidance.

Awareness Programs

Health and safety awareness programs are regularly scheduled for students at William & Mary. The purpose of these programs is to promote a safer and healthier campus environment by helping students become aware of their behavior. The Dean of Students' Office, University Life Office, the Counseling Center and other offices periodically present programs. Topics include alcohol and substance abuse, AIDS, sexually transmitted diseases, CPR, rape and assault, stress management, and other health and safety issues.

**Appendix A
EH&S Recordkeeping**

Source of Requirement	Main Document & Related Material	Documentation	Recordkeeping
29 CFR 1910.1200	Hazard Communication Standard: A written HAZCOM program for hazardous materials including warning labeling, training, and other information.	The latest SDS for each substance has to be kept on file in the workplace and be readily accessible to employees. Identification and inventory of all hazardous chemicals. Related employee training policies. Exposure Records	SDSs for substances used on-site shall be maintained until archived. Archived MSDSs are kept for a period of thirty years.
29 CFR 1904.2 29 CFR 1904.4	Annual Occupational Injuries & Illness Logs and supplementary records	A log of all recordable occupational injuries and illnesses is required within an identified timeframe after notification. A summary report, that includes the log of all occupational injuries and illnesses, is required. A supplemental record has to be completed within six working days of the event or notice of claim.	Records must be maintained for a period of five years following the end of the recorded year.
29 CFR 1904.5	Annual summaries of occupational injuries and illnesses	An annual summary of all occupational illnesses and injuries in the workplace must be compiled and posted in the workplace by the employer.	Information is posted in the workplace for at least the period of February 1 to May 1 of the following year. The information is maintained for five years.

Public Law 91-596, Sec. 8 & 11	Facility safety program	Keep records of activities relating to this Act. (OSHA).	Maintain records for a minimum of 10 years.
	Standard Operating Procedures (SOPs)	Procedures that address ESH&Q concerns for work activities.	Maintain procedures for life of the facility.
29 CFR 1903	Safety inspection records	Results of division-wide inspections are recorded monthly or as prescribed and maintained.	Records are maintained according to division procedures for a minimum of 1 year.
29 CFR 1904.11	Changes in ownership	When a facility changes hands, the former owner is responsible for maintaining records and filing required reports for the period of the remainder of the year that it was the owner.	After the facility changes hands, the new owner must retain records for a period of five years.
	Fire Protection Program (FPP)- General: Coordinate design and maintenance of all facilities.	Preparation, implementation, and maintenance of the FPP.	Maintain all records for the life of the facility except as identified in specific programs.
		Records of inspection, testing and maintenance for facility fire protection systems.	Maintain all records for the life of the facility except as identified in specific programs.
		Alarm, investigation, & incident reports	Maintain all records for the life of the facility except as identified in specific programs.
		Fire extinguisher and hose maintenance records	Maintain all records for the life of the facility

			except as identified in specific programs.
		Fire alarm system test records	Maintain all records for the life of the facility except as identified in specific programs.
		Records of all system changes, as-built drawings, operation and service manuals, and diagnostic and test reports.	Maintain all records for the life of the facility except as identified in specific programs.
	NFPA-National Fire Codes VA Uniform Statewide Bldg. Code International Building Code International Fire Code 29 CFR 1910 29 CFR 1926	Emergency Action Plans Automatic sprinkler systems basis for design	Maintain all records for the life of the facility except as identified in specific programs.
29 CFR 1910.1020	Employee exposure records	Measure worker exposure to potentially hazardous substances in the workplace according to OSHA requirements	Records of employee exposure must be maintained for a period of at least 75 years, except as noted in OSHA, 29 CFR 1910.1020(d)(1)(ii).
29 CFR 1910.1020	Employee exposure records	Standards, operating guides, procedures Records and investigations on exposures IH log sheets	Incidents of exposure and results of hazardous substance monitoring are maintained for fifteen years
29 CFR 1910.1020	Periodic medical tests	Test results to monitor health effects of potentially toxic or	Retain records for 75 years as noted above

		carcinogenic workplace substances	
40 CFR 763 15 U.S.C. 2605	Asbestos abatement	Maintain records of objective data that demonstrates that products made from or containing asbestos are not capable of releasing fibers of asbestos in concentrations at or above the action level.	Records must be maintained for the duration of the employer's reliance on such data.
Clean Air Act & Amendments (CAAA) 40 CFR 82 E.O. 12843	Refrigerant recycling	Persons servicing air-conditioning and refrigeration equipment containing CAAA-identified materials must have appropriate certification to ensure emissions are minimized.	Verify that subcontractor and applicable staff certifications and licenses are maintained for a period of three years.
CAAA 40 CFR 61 40 CFR 63	Hazardous Air Pollutants (HAPs) & National Emission Standards for HAPs (NESHAPs)	Track and document environmental monitoring of ionizing radiation.	Records must be maintained for a minimum of five years.
CAAA 40 CFR 61 40 CFR 63 40 CFR 82	Boiler Air Emissions Monitoring	Records of boiler emissions. Emission reports are provided to DEQ, upon request.	Records are maintained for a ten year period.
9 VAC 5-40-50 9 VAC 5-60-70	Existing Stationary Sources/ HAP Sources	Maintain a file of all measurements, including continuous monitoring system, monitoring device, and emission measurements.	Retain for two years.

49 CFR 171	Other hazardous Materials	Records of all shipping and packaging requirements for onsite transport.	Records maintained per site procedures.
E.O. 12856	Non-hazardous materials recycling	The recycling program is addressed in the Waste Minimization/Pollution Prevention program. It is handled under a subcontract and disposal records are furnished.	Recycling quantity records are maintained for a minimum period of 2 yrs.