



KEAN UNIVERSITY HEALTH AND SAFETY GUIDE

Kean University
Safety Committee

2012-2013

KEAN UNIVERSITY HEALTH AND SAFETY GUIDE

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1. Introduction

1.1. Overview

Kean University is committed to providing, to the greatest extent possible, an environment for its employees, students, and visitors that does not adversely affect their health and safety. Furthermore, the University recognizes an obligation to demonstrate safety and environmental leadership by maintaining the highest standards and serving as an example to our students as well as the community at large.

1.2 Responsibility for Safety

Kean University faculty, staff, and students have an obligation to take all reasonable precautions to prevent foreseeable injury to themselves and other employees and students in the facilities of this institution, and to make the safety of colleagues a workplace priority. It is incumbent upon the University community to avoid unsafe acts while on the University campus or at other affiliated facilities or sites, and to avoid conditions resulting in the creation of environmental hazards.

Vice presidents, deans, department chairs, directors, supervisors, managers, and supervisors are responsible for the health and safety of employees engaged in activities under their direction or supervision. They must ensure that their employees comply with all relevant regulations and accepted standards and that work activities are performed in a safe and considerate manner.

Each employee is responsible for complying with the applicable provisions of health and safety standards and regulations promulgated by regulatory agencies. They also must adhere to all University and departmental or office safety policies and procedures and comply with safety directives issued by their individual supervisors. At least annually, members of the campus community should update contact information and review basic procedures to follow in a campus emergency.

1.3 Purpose and Availability

The purpose of the Kean University Health and Safety Guide is to serve as a general reference document to the University community with regard to various health and safety topics. The Guide is intended to be used in conjunction with existing University policies and procedures as well as all applicable State and Federal regulations concerning health and safety issues. The Health and Safety Guide will be included as an integral part of our comprehensive **Emergency Management Plan**.

Kean University is committed to providing a campus environment that is accessible and at the same time, safe and secure. The university will provide written copies of the Health and Safety Guide to all respective departments throughout the University community. The Health and Safety Guide will be available on-line via the Kean University web site at www.kean.edu. As the Guide needs to be updated, revisions will be made to the web version going forward. The web version of the Health and Safety Guide is a “live document” and will always be the most up-to-date copy available.

1.4 Organization and Use the Guide

The table of contents should be used as a resource for finding specific information pertaining to various topics. The topics are arranged into sections based on certain aspects of health and safety and relevancy. The sections of the Guide are as follows:

- Workplace Safety
- Occupational Safety
- Fire/Life Safety
- Chemical Safety
- Biological Safety
- Radiation Safety

Each section follows the same basic format and contains the following key elements:

- Introduction – provides a summary of the health and safety issue addressed by the section.
- Scope and Application – describes the specific applicability of the program or activities covered by the section.
- Procedural Description – describes the detailed procedures to perform a specific health and safety activity or provides an overview of the elements of a specific program.
- Roles and Responsibilities – establishes the roles and responsibilities of a department, supervisors, and the individual worker.
- Key References and Resources – provides a listing of additional reference and resources as applicable.

2. Administrative Support

2.1. Kean University Safety Committee

The Kean University Safety Committee serves in an advisory capacity with regard to health, safety, and environmental protection issues. The committee meets five times a year to review and discuss health and safety related incidents and concerns. Recommendations resulting from these meetings are documented in the approved minutes which are forwarded to the members of the President's Cabinet on a regular basis.

Members broadly represent all major areas of the University and consist of individuals interested in improving campus safety. The current members are in Table 1.

Table 1 – Membership of the Kean Safety Committee for 2012-2013

Member	Extension	Email Address	Affiliation	Department
Sharon Pezarras Santora	73158	ssantora@kean.edu	Chairperson, Safety Comm.	Financial Services/Risk Mgt.
Frank Osborne	74289	fosborne@kean.edu	Secretary, Safety Comm.	Elem. Middle & Second Educ.
Suzanne Kupiec	75109	skupiec@kean.edu	Environmental Health & Safety Office	Campus Police
Kate Henderson		kathleenh1@aol.com	KUAFF/CERT Director	Phys Ed/Rec/Health
Tim Sensor	75454	jsensor@kean.edu	Admin/PEOSH	Athletics & Recreation
Steve Pinto	75034	spinto@kean.edu	IFPTE	Facilities
Vacant			PBA Admin.	Campus Police
Vincent Kearney	74815	vkearney@kean.edu	PBA Sergeants	Campus Police
Dave Lopez	74821	dlopez@kean.edu	PBA Officers	Campus Police
Lou Magliaro	75010	magliarL@kean.edu	Fire Safety Office	Campus Police
Lori Purwin	74887	lpurwin@kean.edu	Administration	Health Services
William Heyniger	73689	whelynige@kean.edu	Kean Univ. Federation of Teachers (AFT)	Geology/Meteorology
Stephanie Hawkins	73262	hawkiste@kean.edu	CWA	OCIS
Phyllis Duke	75018	pduke@kean.edu	Administration	Campus Planning & Facilities
Charlie Xu	73185	cxu@kean.edu	Administration	Student Financial Services
LaTysha Gaines	76804	lgaines@kean.edu	Administration	Residence Life
Pete Boorujy	75059	pboorujy@kean.edu	Administration	Purchasing
Joe Kang	75060	sukang@kean.edu	Administration	Purchasing
Yrelys Tapanes	73313	ytapanes@kean.edu	Administration	Human Resources

Should you have any questions or concerns pertaining to environmental, health, and safety issues, you may contact the appropriate committee member relative to the matter.

2.2 Office of Environmental Health and Safety

The Office of Environmental Health and Safety (EHS) is here to help support the overall mission of Kean University and assist with the growth, communication, education and safety of the entire campus community. Questions or concerns pertaining to environmental health, occupational health or safety, or fire safety may be addressed by contacting the Environmental, Health and Safety (EHS) staff members listed below.

Further information is also available on-line via the Kean University web site at www.kean.edu/ehs

Suzanne M. Kupiec, MPH, CSP
 Director-Environmental Health & Safety
 e-mail: skupiec@kean.edu
 Phone 908-737-5109
 On-campus X 75109
 Fax 908-737-5025

Lou Magliaro
 Fire Safety Office
 e-mail: magliarL@kean.edu
 Phone 908-737-5010
 On-campus X 75010
 Fax 908-737-5025

3. Workplace Safety

3.1. Work-Related Accidents and Injuries

Introduction

All work-related injuries or illnesses must be properly reported in order to provide for prompt medical evaluation and treatment, to qualify for payment of medical expenses and wage replacement benefits, and to comply with state and Federal regulations.

All Kean University employees are covered by workers' compensation insurance, which compensates employees with eligible claims for lost time, medical expenses, and loss of life or dismemberment from an injury or illness arising out of or in the course of work. Please see the On-the-Job Injury Reporting Procedures for further details.

Scope and Application

Workers' Compensation

An injury or illness is classified as work-related only if it arises out of and in the course of employment at Kean University. Specific reporting requirements are mandated under the New Jersey Workers' Compensation Law and the Federal Occupational Safety and Health Act. Questions about whether an injury or illness is work-related or reportable should be directed to the Office of Human Resources, Administration Building, Second Floor, at 908-737-3300.

While accidents involving outside contractors or other visitors to campus do not fall within the scope of this section, serious injuries to these individuals should be reported to Campus Police at 908-737-4800 or Emergency 9-1-1.

Procedural Description

For Kean Employees at the Main Campus:

All Kean University employees shall comply with the following procedures in reporting work-related injuries:

1. **General Notification Requirement** - Upon the occurrence of a work-related injury, the injured employee shall immediately notify his/her supervisor.
2. **HR Notification Requirement** - Upon the occurrence of a work-related injury, the injured employee shall notify the Office of Human Resources, Benefits Section at 7-3300 no later than the end of the workday on which the injury occurred.
3. **Accident Report Form** - For all cases, an accident report form (Form RM-2) must be completed by the employee, signed by the employee and the supervisor, and submitted to the Office of Human Resources (Benefits Section) by the employee **within 48 hours from the time of the injury/illness**, pursuant to New Jersey State regulations governing Worker's Compensation and Sick Leave Injury benefits. An original, signed Accident Report Form is required. Copies of the form can be obtained at the Office of Human Resources or at the HR webpage under the section titled *Workers' Compensation*.

4. **Supplemental Report of Accidental Injury** – The employee is also required to complete a Supplemental Report of Accidental Injury Form and submit this to the Office of Human Resources along with the Accident Report Form, within 48 hours from the time of the injury/illness.

5. **Non-Emergent Cases** - In the event that an employee sustains a work-related injury during normal business hours (Monday through Friday, 9:00 a.m. to 5:00 p.m.), the Office of Human Resources will make arrangements for a medical evaluation of all non-emergent cases. All University employees who are injured on the job shall receive an initial medical evaluation and treatment from *Multi-Care, 100 Commerce Place, Clark, NJ 07066*, telephone number (732) 499-0606, fax number (732) 499-7490; Hours: Monday through Friday, 9 a.m. to 6 p.m. An Employer's Authorization for Examination or Treatment is required from the Office of Human Resources before treatment can be rendered.

5. **Emergency Cases/After Hours** - In the event of a medical emergency or if medical treatment is required before or after the operating hours of Multi-Care, Campus Police must be contacted at 7-4800. Campus Police will arrange for all emergency care cases or matters occurring after hours to be sent to a hospital. Emergency care is defined as a life threatening condition so severe that medical attention is required or reasonably necessary to safeguard the injured employee's well-being. Please note that these employees are still required to notify an immediate supervisor and the Office of Human Resources, and file an accident report form (Form RM-2) within 48 hours from the time of injury. A police report may not be used as a substitute for an accident report form.

6. **Post-Injury Notification** – After the injured employee has been treated, the Office of Human Resources shall again be contacted by the employee and advised as to: 1) The nature of the injury; 2) The extent of such injury; 3) The general nature of the treatment received for the injury; and, 4) The estimated time that the employee will remain out of work.

7. **Unauthorized Medical Treatment** - Employees should not seek treatment from their primary-care physician. Such treatment can be deemed unauthorized and the employee will be responsible for paying his/her medical bills.

8. **Failure to Comply with Reporting Procedures** - Employees who do not comply with these procedures will be responsible for paying their medical bills and may prejudice the work-related injury claim.

9. **Questions Regarding Notification Procedures** - If there are any questions regarding the reporting of work-related injuries, please contact the Office of Human Resources, Benefits Section at 7-3300.

For Kean Employees at Ocean County College (OCC):

Any Kean employee who is injured while working at OCC will be medically treated /evaluated as any other OCC employee, visitor or student. Ocean County College's first responder will be the Director of Health Services, a college nurse or a Security Department member. All first responders are trained to provide first aid, evaluate medical conditions and call for additional medical assistance.

1. The first responder will provide first aid and assess the need for any additional medical services.
2. If the situation is urgent, an ambulance will be called.
3. Kean employees will follow the Kean Workers' Compensation instructions by accessing the Human Resources page on the Kean Web site and completing the RM2 report. Click here to download the Accident Report Form. Dr. Robert Cirasa, the contact person between the employee and Kean University, will be responsible for signing the RM2 report.
4. The OCC Director of Health Services will prepare an incident report and fax/forward a copy at Dr. Cirasa at 806-313-5058, the Kean Office of Human Resources, and the appropriate personnel at OCC. The completion of the report is required for all incidents at OCC which maintains a record for the college's liability insurance and safety reports.
5. The injured employee will communicate all treatment/follow up/problems with Kean University's worker-compensation carrier or Human Resources.
6. Kean University will be responsible for notifying all Kean employees working at OCC of the workers' compensation procedure.

Any Kean employee working on the OCC campus, who would like to see a member of the Health Services Department for minor health issues, such as headaches, blood pressure, etc. is more than welcome to utilize the OCC health-services facility, located in the Instructional Building, at no charge.

Roles and Responsibilities

Please refer to the University's On-the-Job Reporting Procedures outlined above under the Procedural Description section for details.

Americans with Disabilities Act (ADA)

Kean University is committed to providing employment opportunities to all qualified applicants and employees without regard to a person's mental or physical disability, pursuant to the Americans with Disabilities Act (ADA) of 1990, Section 503/504 of the Rehabilitation Act of 1973 and the New Jersey Law Against Discrimination (LAD). Every reasonable effort will be made to accommodate special needs, unless the accommodation would impose an undue hardship upon the University or pose a direct threat of substantial harm to the health or safety of the applicant, employee or others.

Employee requests for accommodation due to medical disability should be referred to the Office of Human Resources. Individuals with disabilities are responsible for reporting and supplying documentation verifying their disability. Student requests for accommodations must be initiated through the Office of Community and Disability Services, University Center, Room 315, (908) 737-5150. Employees should contact the Office of Human Resources, Administration Building, Second Floor, at 908-737-3300.

Key References and Resources

Americans with Disabilities Act (ADA)
www.usdoj.gov/crt/ada/adahom1.htm

Kean University Office of Human Resources
www.kean.edu/humanresources.html

New Jersey Workers' Compensation Law
www.state.nj.us/labor/wc/wcindex.html

OSHA Reporting Requirements
www.osha.gov

3.2 Office and Classroom Safety

Introduction

Though offices and classrooms are thought of as relatively safe working environments, they can present potential risks that are often overlooked. Blocked exits, tripping hazards, improper storage practices, and electrical hazards are some of the potential safety concerns that could be found in any office or classroom.

Scope and Application

This Section applies to all office and classroom space used by a department or division for academic or administrative purposes, including spaces utilized for athletic and student-related functions.

Procedural Description

As with any other functional area with the department, each office and classroom should be inspected on a regular ongoing basis. When operational deficiencies (e.g. improper storage on shelving, blocked stairways/hallways, fire doors chocked open, damaged electrical power strips, extension cords utilized in place of permanent wiring) are

discovered, corrective action should be taken, within reason, by the individual who has identified the potential hazard. The supervisor should also be notified if additional assistance is required to resolve the problem.

Facility deficiencies, (e.g. malfunctioning elevators, replacement of light bulbs, water leaks, etc.) should be referred to the Office of Facilities and Campus Planning (FCP), located in the Maintenance Building, at 7-5000. The appropriate department supervisor must be notified with regard to the potential safety hazard in question to determine the severity of the situation. A corresponding work order must be completed and placed through the University's on-line system outlining the details of the deficiency in need of repair.

Roles and Responsibilities

Department

- Perform informal safety surveys of departmental spaces.
- Correct deficiencies or refer to the Office of Facilities and Campus Planning (FCP), as appropriate.

Supervisor

- Ensure unsafe conditions are corrected in a timely manner.

Individual

- Report unsafe conditions to supervisor.

Key References or Resources

Kean University On-line Work Order Request

<http://www.kean.edu/KU/Campus-Planning-and-Facilities>

3.3 Disaster Response/Emergency Management Plan

Introduction

The purpose of the Emergency Management Plan is to save lives and protect property by developing programs and emergency operational capabilities that prepare for, respond to, mitigate the effects of and recover from any emergency or disaster – whether natural, technological or civil.

Scope and Application

The Emergency Management Plan describes the University's response to various types of disasters and the procedures to be taken by personnel to protect human life, prevent/minimize human injury and hardship, safeguard the assets of the University, and maintain/restore normal University functions.

The Plan gives the University the basis for a systematic approach to the solution of problems created by the threat or actual occurrence of any type of disaster. It identifies the responsibilities, functions, operational procedures and working relationship within

and between public agencies and University, departments, private support groups and individual citizens.

The document establishes the plan format for the University and consists of general information, a media plan, an evacuation plan, appendixes and attachments.

Procedural Description

The Emergency Management Plan provides the current disaster planning information, including a Crisis Management Team (CMT) roster and phone numbers. Copies of the latest plan are kept at the offices of all CMT members as well as on-line via Kean University web site at:

<http://www.kean.edu/admin/uploads/pdf/CampusPolice/KeanEmergencyManagementPlan.pdf>

The document is updated and will be revised at least annually.

The Plan is predicated on a realistic approach to the problems likely to be encountered on a campus during a major crisis/emergency or disaster. The following definitions of a crisis/emergency are provided as guidelines.

- **Minor Emergency:** Any incident, potential or actual, which will not seriously affect the overall functional capacity of the University. **Report immediately to Campus Police at 7-4800.** Campus Police will then dispatch the appropriate resource (Police, Fire, Ambulance, FCP staff and/or EHS staff) to the incident.
- **Major Emergency:** Any incident, potential or actual, which affects the entire building or buildings, and which will disrupt the overall operations of the University. Outside crisis/emergency services will probably be required, as well as major efforts from campus support services. Major policy considerations and decisions will usually be required from the University Administration during times of crises. **Report to Campus Police to 9-1-1 or extension 7-4800 and University President's Office, extension 7-7000.**
- **Crisis:** A crisis is an unstable or crucial time or state of affairs in which a decisive change is impending; one with the distinct possibility of a highly undesirable outcome for Kean University. **Report to Campus Police to 9-1-1 or extension 7-4800 and University President's Office, extension 7-7000.**
- **Disaster:** Any event or occurrence that has taken place and has seriously impaired or halted the operations of the University. In some cases, mass personnel casualties and severe property damage may be sustained. A coordinated effort of all campus-wide resources is required to effectively control the situation. Outside emergency services will be essential. In all cases of disaster, emergency operations will be activated, and the appropriate support and operational plans will be executed. **Report to Campus Police to 9-1-1 or extension 7-4800 and University President's Office, extension 7-7000.**

The authority to declare a campus state of crisis/emergency rests with the University President in conjunction with the "Assessment Group." During a crisis/emergency, the Campus Police Department will place into immediate effect the appropriate procedures to meet the crisis/emergency, safeguard persons and property, and maintain educational facilities. The Campus Police will immediately consult with the President or President's

designee regarding the crisis/emergency and the possible need for a declaration of a campus state of crisis/emergency.

When this declaration is made, only registered students, faculty, staff and affiliates (i.e.- persons required by employment) are authorized to be present on campus. Those who cannot present proper identification will be asked to leave the campus. Unauthorized person remaining on campus may be subject to prosecution, in accordance with the New Jersey State Criminal Justice Code.

When it has been determined that a major crisis/emergency has occurred, or is imminent, it will be the responsibility of the Campus Police and designated personnel to set up and staff the Command Post. The Command Post is to be set up in the President's Office Conference Room. A uniformed police officer will staff the Command Post at all times. Representatives from University Relations, Facilities and Maintenance, and/or outside emergency management will assist. Selected members of the University's Crisis Managers and designated University personnel will complete the staffing.

The Command Post will be the hub of communications activity. All the latest information about the event will be gathered there and verified before being released to the press. All incoming calls about the emergency should be directed to the Command Post. All phone calls to and from the Command Post will be logged. Information on the Kean University web site and radio station, WKNJ, will be continuously updated. Information will be faxed or emailed to local/state officials and legislators and to local civic groups and nonprofit organizations.

It is important that the campus community be prepared in case of an actual emergency. To this end, rehearsal dates for simulation of actual crisis/emergencies will be announced. In addition, the University reserves the right to simulate actual crisis/emergencies without prior notice.

Roles and Responsibilities

Department

The Department of Public Safety and Police (Campus Police) in consultation with the Crisis Management Team (CMT), which includes the President, will have primary responsibility for the direction of all crisis/emergency operations at Kean University. In addition, selected persons will have specific responsibilities in case of an emergency building evacuation as outlined in the Crisis Management Plan.

The Crisis Management Team (CMT) consists of the following members:

- President*
- Provost/VP for Academic Affairs*
- VP for Administration and Finance*
- VP for Student Affairs*
- VP for Institutional Advancement
- Director, Department of Public Safety and Police*
- Director, Office of Facilities and Campus Planning*
- Director of University Relations*

- Director of Human Resources
- Executive Assistant to the Board of Trustees*
- Director of the Alumni Office
- Director of Residence Life
- Director of East Campus

**Members of the Assessment Group meet in the Office of the President when an emergency affecting the campus reaches proportions that routine measure cannot handle. The purpose of this group is to assess the extent of the emergency and to develop a plan of action that will then be shared with other members of the CMT. The CMT will then implement the plan to deal with the emergency.*

The University President or designee in conjunction with the Assessment Group will direct all crisis/emergency operations. In the absence of the President, the Provost/VP for Academic Affairs in consultation with the VP for Administration and Finance will assume operational control of the crisis/emergency in consultation with Campus Police.

Supervisor

See below under “***Individual.***”

Individual

- Every member of the faculty and staff should read and be familiar with applicable emergency plans and familiarize themselves with emergency procedures and evacuation routes.
- Faculty and staff must be prepared to assess situations quickly and thoroughly, and use common sense in determining a course of action.
- All faculty and staff are responsible for securing their work areas. Work areas may need to be secured in advance of certain weather systems (hurricanes, winter storms, floods, etc.)
- Faculty and staff should be prepared to direct their students to assembly areas in the event of an emergency and account for every student.

Key References and Resources

Kean University Department of Public Safety and Police

<http://www.kean.edu/publications/TheGuide.pdf>

Kean University Emergency Management Plan (password protected)

<http://www.kean.edu/admin/uploads/pdf/CampusPolice/KeanEmergencyManagementPlan.pdf>

Kean University General Fire Safety Policies, Procedures, and Emergency Action Plan

www.kean.edu/fehs/pdf/fire_evacuation.pdf

Kean University Emergency Evacuation Plan Map

http://www.kean.edu/admin/uploads/images/CampusPolice/Evacuation_Map.jpg

4. Occupational Safety

The Public Employee Occupational Safety and Health Program (PEOSH), by authority established under the PEOSH Act of 1995 (N.J.S.A 34:6A-25 et seq., enacted in 1984 and amended on July 25, 1995) is responsible for promoting the health and safety for approximately 500,000 State and Local government employees in New Jersey.

The Plan designates the New Jersey Department of Labor and Workforce Development as the State agency responsible for administering the Plan throughout the State. Under this enabling legislation, the Commissioner of Labor and Workforce Development has full authority to enforce and administer all laws and rules protecting the safety and health of all employees of the state and its political subdivisions in the State, as well the responsibility to adopt all applicable federal standards and maintain "at least as effective" as performance requirements. The Commissioner of Health and Senior Services has authority for occupational health matters including the authority to conduct health inspections, investigations and related activities, such as health consultation visits and training.

The New Jersey State Plan applies to all State, County and Local government agencies, public authorities, fire departments, and school districts.

The PEOSH Program has adopted all Federal OSHA standards and regulations as applicable to public sector employment, with the exception of the following:

- Hazard Communication Program - 1910.1200 - PEOSH modified OSHA's standard to include specific provisions of the State's Right-to-Know Law regarding fact sheets on chemicals - State Standard NJAC 12:100-7
- Fire Brigade 1910.156 - State Standard NJAC 12:100-10

In addition, PEOSH has two State-initiated Standards, administered by the Department of Health and Senior Services:

- Indoor Air Quality - NJAC 12:100-13
- Indoor Firing Ranges - NJAC 12:100-8

4.1. Electrical Safety Related Work Practices

Introduction

The purpose of an Electrical Safety-Related Work Practices Program is to protect workers from the hazards of exposed electrical circuits through training, procedures such as lockout/tagout, and the use of personal protective equipment.

Scope and Application

PEOSH requires that Electrical Safety-Related Work Practices apply to those who work near exposed electrical circuits that operate at 50 volts or more. Occupations generally affected by this regulation include, but are not limited to:

- Electrical and electronic engineers
- Electrical and electronic equipment assemblers
- Electrical and electronic technicians
- Electricians
- Industrial machine operators
- Mechanics and repairers
- Painters
- Riggers
- Stationary engineers
- Welders
- Supervisors of the groups listed above

Procedural Description

Under this rule, PEOSHA separates workers into two broad groups, "qualified persons" and "unqualified persons." Qualified persons are those who have been trained in avoiding the electrical hazards of working with exposed energized parts, while unqualified persons have little such training. Supervisors should be aware that the training requirements differ for each group, as do the tasks each is allowed to perform.

Training is required for anyone who faces a risk of electric shock while performing normal job duties. In addition to training in safety-related work practices, unqualified persons should be trained in the inherent hazards of electricity. Qualified persons should receive additional training that allows them to distinguish live parts from other electrical equipment, measure the voltage of exposed live parts, and determine minimum clearance distances.

Safety-related work practices should be used to prevent electric shock or other injuries that may result from contact with an energized circuit. Live parts should be de-energized before work begins unless it introduces additional hazards or is unfeasible to do so. Circuits should not be de-energized if it would cause the interruption of life support equipment, deactivation of emergency alarm systems, shutdown of ventilation equipment in hazardous locations, or removal of illumination for an area.

Special procedures should be followed whenever work is done near energized equipment and circuits, especially overhead power lines. Consideration should be given to housekeeping procedures, lighting, and the conductivity of materials and equipment. The hazards of confined spaces should be considered when work is done in manholes or underground vaults.

Safety-related work practices should be followed when using cord and plug connected equipment and extension cords. Equipment should not be raised or lowered by its electrical cords. All electrical equipment should be inspected before use and, if found defective, removed from service until repaired.

The environment in which electrical equipment is to be used should also be considered. Ground Fault Circuit Interrupters (GFCI) or low voltage tools should be used in conductive work locations. Special equipment may also be required in areas that may contain flammable or ignitable material or vapors.

Personal protective equipment, such as nonconductive head protection, eye and face protection, and insulating gloves, may be necessary for protection against electrical hazards.

Insulated tools and handling equipment, such as protective shields, barriers, or insulating materials, should be used when working near exposed electrical conductors.

Safety signs, tags, or barricades can be used to warn and protect workers. When these techniques do not provide sufficient protection, an attendant should be used.

Roles and Responsibilities

Department

- Provide specific training for qualified and unqualified workers.
- Provide and maintain necessary protective equipment and materials.
- Develop and maintain written Electrical Safety-Related Work Practices.

Supervisors

- Ensure workers receive training appropriate to their assigned tasks.
- Ensure workers are provided with and use protective equipment and materials.

Individual

- Attend training.
- Use appropriate electrical safety-related work practices, including all necessary protective equipment and materials.

Key References and Resources

- United States Department of Labor, Occupational Safety and Health Administration - www.osha.gov
 - Electrical Safety-Related Work Practices, 29 CFR 1910.331 - 335
 - The Control of Hazardous Energy (Lockout/Tagout), 29 CFR 1910.147
 - Personal Protective Equipment, 29 CFR Subpart I

4.2 Lockout/Tagout

Introduction

Lockout/tagout programs are designed to prevent accidental startup of machines or equipment, and to prevent the release of stored energy during servicing or maintenance. Through the use of specific procedures that involve applying locks and/or tags as direct controls, equipment is isolated from energy sources and injuries to workers are prevented.

Scope and Application

PEOSH requirements for the Control of Hazardous Energy (Lockout/Tagout) apply to all servicing and maintenance of equipment where accidental startup or unexpected release of energy can occur. Departments involved in these activities are responsible for the development and implementation of a lock-out/tag-out program. The program will ensure that outside contractors working at the University follow this important policy. Lock-out/tag-out requirements do not apply to work on cord and plug connected equipment.

Procedural Description

Machines and equipment should be evaluated to determine what types of lockout/tagout procedures are necessary. Assistance is available through the Office of Environmental Health and Safety.

A written program should be developed that establishes a general lockout/tagout procedure, including the sequence of events to be followed for all lock outs. The written program should explain where specific written lockout procedures are to be used, where tagout alone is permissible, and what types of locks and tags can be used. The written program should also provide details for completion of the required annual inspection of the lockout/tagout procedures.

Standardized lockout devices should be provided to maintenance and service workers. These devices must be able to withstand the environment in which they will be used. Lockout devices cannot be used for any other purpose, such as locking toolboxes or personal lockers.

Training requirements are met through general training sessions offered by the Office of Human Resources and specific training given by the Office of Facilities and Campus Planning. The level of training required varies. Maintenance and service workers, who would be expected to use lockout procedures as part of their job, require a higher degree of training than machine operators, whose work may be affected by the maintenance or servicing operations.

Roles and Responsibilities

Department

- Evaluate machines and equipment.
- Develop and maintain a written Lockout/Tagout Program.
- Develop and maintain machine-specific written procedures, where necessary.
- Evaluate program and procedures at least annually.
- Provide and maintain necessary protective materials and hardware.
- Provide specific training to workers.

Supervisors

- Ensure workers receive general and specific training.

- Ensure workers use lockout/tagout procedures during servicing and maintenance.
- Ensure lockout devices are not used for any other purpose.

Individual

- Attend training.
- Follow appropriate lockout/tagout procedures.
- Use lockout devices only for their intended purpose.

Key References and Resources

- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov
- The Control of Hazardous Energy Sources (Lockout/Tagout), 29 CFR 1910.147

4.3 Personal Protective Equipment

Introduction

Personal protective equipment (PPE) includes all types of equipment used to increase individual safety while performing potentially hazardous tasks. This may include safety glasses, hard hats, gloves, lab coats, respirators, or any equipment used to protect against injury or illness.

Scope and Application

PEOSH requires PPE to be provided, used, and maintained in a sanitary and reliable condition wherever hazards of processes or environment, chemical hazards, radiological hazards, or mechanical irritants are encountered in a manner capable of causing injury or illness through absorption, inhalation, or physical contact. Departments are responsible for ensuring the adequacy of the equipment and ensuring that it is properly maintained, even in those cases where employees provide their own PPE.

Procedural Description

Engineering controls that eliminate the hazard at the source and do not rely on the worker's behavior for their effectiveness offer the best and most reliable means of protection. Therefore, engineering controls are the first choice for eliminating workplace hazards. Whenever engineering controls are not available or are not fully capable of providing protection, the worker must wear personal protective equipment.

Departments must assess their workplaces to identify hazards requiring the use of PPE. Equipment should be selected to provide protection against the hazards identified during the assessment. The hazard assessment must be certified in writing.

Appropriate eye and face protection, such as safety glasses, goggles, and face shields, must be used to protect against the hazards associated with flying particles, molten metal, liquid chemicals, acids and caustic liquids, chemical gases and vapors, or potentially injurious light radiation.

A protective helmet (hard hat) must be worn when working in areas where there is the potential for injury from falling objects or exposed energized electrical conductors that could contact the head.

Protective footwear must be worn in areas where there is the potential for foot injuries from falling or rolling objects, from objects piercing the sole, or from exposed energized electrical conductors that could contact the feet.

Hand protection must be worn to protect against hazards of skin absorption of harmful substances, severe cuts or lacerations, severe abrasions, punctures, chemical burns, thermal burns, or harmful temperature extremes.

Respiratory protection may be used to protect against inhalation hazards when engineering and administrative controls are not feasible or adequate.

Each worker required to use PPE must receive training in the following:

- how to properly wear PPE
- what types of PPE provide protection against the hazards identified during the assessment
- when PPE must be used · the proper care and useful life of PPE
- proper disposal of damaged PPE

The department must certify in writing that workers have received and understood this training. Training assistance is available through the EHS Officer.

Roles and Responsibilities

Department

- Conduct workplace hazard assessment.
- Select PPE appropriate to the hazard identified during the assessment.
- Provide PPE to workers.
- Train workers in elements of PPE use.
- Maintain certifications of hazard assessment and training.

Supervisors

- Ensure workers understand training on PPE.
- Ensure workers use PPE when needed.

Individual

- Attend training.
- Use PPE when necessary.

Key References and Resources

- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov

- Personal Protective Equipment, 29 CFR 1910, Subpart I.

4.4 Noise and Hearing Conservation

Introduction

Noise is defined as unwanted sound. The purpose of the program is to prevent noise-induced hearing loss caused by exposure to loud and prolonged noise.

The PEOSH permissible exposure limit for noise is a time-weighted average (sound levels averaged over an 8 hour day) of 90 dBA (decibels, using A-weighted sound levels). A healthy person exposed below this level, day after day, is unlikely to experience noise-induced hearing loss. No individual may be exposed to noise levels above 115 dB at any time.

Scope and Application

A high noise area is defined as an area in which sound levels equal or exceeds a time weighted average (TWA) of 85 dBA or in which sound levels exceed 115 dBA at any time. The Hearing Conservation Program and the PEOSHA Occupational Noise Standard apply to individuals working in high noise areas.

Noise levels below 85 dBA (averaged over 8 hours) are considered nuisance noise. While nuisance noise does not generally cause injury directly, in some instances it may mask sounds indicative of other developing hazards and may be a source of annoyance.

Procedural Description

Monitoring

Surveys of high noise areas are conducted on a regular basis by the University. In the event of process changes, facility renovations, equipment additions, or upon request, additional noise surveys may be conducted at the discretion of the University. Noise monitoring results are forwarded to the person monitored and his or her supervisor in a confidential letter.

It is the responsibility of the department supervisor to post the following information on sources of high noise:

**CAUTION
HEARING PROTECTION MUST BE WORN WHEN
THIS EQUIPMENT IS IN OPERATION**

Where high noise sources are stationary, department supervisors must post signs to this effect. Small stickers must be affixed to mobile sources of high noise.

Audiometric Testing

All individuals working in high noise areas must be enrolled in an Audiometric Testing Program administered through the University. Within six months of the first high noise exposure, these individuals must receive a hearing test to establish a baseline

audiogram. The audiogram is to be performed by a certified/licensed professional or trained technician designated by University. High noise exposure must be avoided for 14 hours prior to an exam.

Audiograms are then given at least annually and compared to the baseline audiogram to determine if a threshold shift exists. A threshold shift has occurred if the hearing threshold has changed by an average of 10 dBA or more in either ear, measured at 2000, 3000, or 4000 Hz. If any changes in hearing are noted, the individual is notified by Employee Health.

Persons enrolled in the Audiometric Testing Program must have a termination audiogram upon leaving the University.

Hearing Protection

Noise reduction may be accomplished through use of engineering controls such as enclosing or altering noisy equipment. Sound absorbing materials, which usually absorb 70% or more of the sound that strikes them, may be placed above or around noisy equipment or work areas.

When engineering controls are not enough to reduce exposure to acceptable levels, hearing protectors may be worn. A hearing protector acts as a barrier to reduce sound entering the ear. Use of hearing protection is mandatory for anyone exposed at or above a TWA of 90 dBA, and is recommended for those exposed at or above a TWA of 85 dBA. Those who have not yet received a baseline audiogram and those experiencing a threshold shift are also required to wear hearing protection at levels above 85 dBA.

There are many types of hearing protectors available, including disposable or reusable plugs, headband plugs, and muffs. Reusable hearing protectors should be cleaned often and replaced when the plugs or muff cushions become hardened or discolored. It is important that the plugs are seated properly in the ear, that the muffs form an adequate seal around the ear and that the headband is not bent. All of these precautions will improve the noise attenuation (reduction) achieved by the hearing protection.

A Noise Reduction Rating (NRR), usually stamped on the hearing protector or its packaging, indicates how much noise the particular hearing protector attenuates, usually between 20-29 dBA. EHS will evaluate what type of hearing protector offers adequate attenuation for the work area.

Training

All personnel exposed at or above a time-weighted average of 85 dB must receive Hearing Conservation Training annually. This training is provided by certified/licensed professional or trained technician designated by the University and includes:

- effects of noise on hearing
- purpose of hearing protection
- types of hearing protection
- selection, use, fitting and care of hearing protectors
- purpose and procedures for audiometric testing

It is the responsibility of the supervisor to assure that workers attend this training annually and to keep records of attendance.

Roles and Responsibilities

Departments/Areas where Noise Hazards Exist

- Post copy of PEOSHA Occupational Noise Exposure regulation.
- Notify EHS when new noise sources are introduced.
- Minimize noise using engineering controls.
- Offer a variety of hearing protectors

Supervisor

- Post signs or stickers on high noise areas.
- Ensure workers wear hearing protection.
- Ensure workers receive training and audiograms.

Individual

- Attend training and receive audiometric testing.
- Wear appropriate hearing protection when needed at work and minimize noise exposure outside of work.

Key References and Resources

- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov
- Occupational Noise Exposure, 29 CFR 1910.95.

4.5 Machine Guarding

Introduction

This policy is designed to ensure that University employees and students follow procedures which assure that equipment or machines are operated safely and meet State, Federal, and industry machine guarding standards.

This policy applies to all University employees and students who may work with, or adjacent to, equipment or machines that may pose a safety hazard.

Scope and Application

PEOSH requires guarding for any machine where machine parts, functions, or processes may cause injury. The need for machine guarding may be found in machine shops in academic departments, maintenance shops, print shops, and other areas where mechanical equipment is used.

Procedural Description

Any machine part, function, or process that might cause injury must be safeguarded. When the operation of a machine or accidental contact with it could injure the operator or others in the vicinity, the hazards must be either controlled or eliminated.

Machine guarding decisions should be made in the following order of preference:

- Design out or eliminate the hazard
- Physically “engineer out” the exposure to the hazard
- Guard the hazard: require personal protective equipment
- Use warning devices, or make the danger “manifest”
- Use warning signs
- Use safe working practices and procedures

Any person who works near or adjacent to, any sort of machine will receive “affected employee” training during initial orientation and every two years thereafter. Affected employees receive machine guarding training specific to the hazards being controlled on the piece of equipment. Students using machines must be trained by the shop supervisor. Employees performing maintenance related activities will receive periodic machine guarding training.

Roles and Responsibilities

Department

- Ensure machines are equipped with appropriate safeguards.
- Provide personal protective equipment to operators, when necessary.
- Provide machine specific training to operators

Supervisor

- Ensure guards on facility equipment and machines operated by facilities personnel are kept in place and used as originally designed.
- In academic areas, the Principal Investigator, Lab Director, or Department Head is responsible for ensuring guards on machines operated by personnel or students under their supervision are kept in place and used as originally designed.

Individual Worker

- MUST operate machines with all safeguards in place.
- Responsible for reporting any unguarded machine hazard to their supervisor immediately.
- Should forward any student concerns or observations regarding the lack of machine guarding to their supervisor.

Key References and Resources

- Kean University Environmental Health and Safety web site - <http://www.kean.edu/ehs/>
- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov
- OSHA Machine Guarding Standard – 29 CFR 1910.212

4.6 Fall Protection

Introduction

Employers must put safeguards in place to prevent employees from falling off of overhead platforms, elevated work stations, or into holes in the floor and walls.

Fall arresting systems, which include lifelines, body harnesses, and other associated equipment, are often used when fall hazards cannot be controlled by railings, floors, nets, and other means. These systems are designed to stop a free fall of up to six feet while limiting the forces imposed on the wearer.

Scope and Application

Fall protection is required for work at:

- Four feet or more above the surrounding work area in maintenance and other general industry work situations.
- Six feet or more above the surrounding work area for construction activities.
- And in all situations where a worker can fall into or onto dangerous machines or equipment (such as a vat or acid or a conveyor belt).

Procedural Description

Fall protection can consist of guardrail systems, safety net systems, or personal fall arrest systems. Where it can be clearly demonstrated that the use of these systems is infeasible or creates a greater hazard, a fall protection program that provides for an alternative means of fall protection measures may be implemented.

A variety of systems may be chosen from when providing fall protection. These systems include:

- **Guardrails:** Standard guardrails consist of a top rail, located 42 inches above the floor, and a mid-rail. Screens and mesh may be used to replace the mid-rail, so long as they extend from the top rail to the floor.
- **Personal Fall Arresting Systems:** Components of a personal fall arresting system include a body harness, lanyard, lifeline, connector, and an anchorage point capable of supporting at least 5000 pounds.
- **Positioning Device Systems:** Positioning device systems consist of a body belt or harness rigged to allow work on a vertical surface, such as a wall, with both hands free.
- **Safety Monitoring by a Competent Person:** This system allows a trained person to monitor others as they work on elevated surfaces and warn them of any fall hazards.
- **Safety Net Systems:** These systems consist of nets installed as close as possible under the work area.
- **Warning Line Systems:** Warning line systems are made up of lines or ropes installed around a work area on a roof. These act as a barrier to prevent those working on the roof from approaching it edges.
- **Covers:** Covers are fastened over holes in the working surface to prevent falls.

Protection should also be provided from falling objects. Work surfaces should be kept clear of material and debris by removal at regular intervals. Toe boards should be used to prevent objects from being inadvertently kicked to a lower level. When necessary, canopies should be provided.

Body harnesses are required for use with all personal fall arresting systems. Body belt use is prohibited, except under certain specific circumstances. Also, only locking-type snap hooks may be used as part of a fall arresting system.

Training must include the following:

- How to recognize and minimize fall hazards
- The nature of the fall hazards in the work area
- Procedures for erecting, maintaining, disassembling, and inspecting the specific fall protection systems used
- Use, operation, and limitations of fall protection systems
- The user's role in fall protection systems

Roles and Responsibilities

Department

- Identify areas where fall protection is needed.
- Obtain or develop fall protection systems.
- Ensure workers are trained.

Supervisor

- Know when fall protection is necessary.
- Provide workers with fall protection devices.
- Ensure workers use fall protection devices.
- EHS can assist in identification of areas where fall protection is needed and provide worker training.

Individual Worker

- Attend training.
- Know when fall protection is necessary.
- Use fall protection systems.
-

Key References and Resources

Kean University Fire and Environmental Health and Safety web site - <http://www.kean.edu/ehs/>

4.7 Portable Ladder Safety

Introduction

This policy is designed to ensure that University employees, contractors and students use ladders safely. The policy establishes requirements for the inspection, care and safe use of all types of ladders

Scope and Application

PEOSH requirements for portable ladders are described in this section and apply to all departments where portable ladders are used. This section does not address the PEOSH requirements for fixed ladders.

Procedural Description

Portable ladders should be inspected at frequent, regular intervals and maintained in good condition free from oil, grease, or other slippery materials. Defective ladders should be removed from service until repaired. Those which cannot be repaired should be destroyed.

Care should be taken while setting up ladders, ensuring that a proper angle is maintained. A simple rule for setting up a ladder is to place the base out from vertical a distance of one-fourth the length of the ladder. For example, if a ladder is being used to reach a height of 8 feet, the base should be set out 2 feet from vertical to achieve a proper angle. Ladders should always be placed on stable bases. Boxes, barrels, or other unstable surfaces should never be used to obtain additional height. Additionally, ladders should not be placed on slippery surfaces unless secured by holding or lashing.

In general, portable wooden ladders are not to be used at Kean University. If used, portable wooden ladders should be maintained free of sharp edges, splinters, and other visual defects. Each ladder should be inspected before use for shake, compression failures, decay, or other irregularities and removed from service if found defective. Wooden ladders should never be painted, as paint may hide defects that could lead to ladder failure.

Wooden step ladders may not exceed 20 feet in length. Single-section portable ladders may not exceed 30 feet in length, while two-section portable ladders may not exceed 60 feet in length.

As with wooden ladders, portable metal ladders should be inspected before use and removed from service if found defective. Because metal ladders will easily conduct electricity, they must never be used for work on or near exposed electrical conductors.

Metal step ladders are not to exceed 20 feet in length. Single-section ladders are not to exceed 30 feet in length, while two-section ladders are not to exceed 48 feet in length. Portable metal ladders with more than two sections are not to exceed 60 feet in length.

Roles and Responsibilities

Department

- Provide the appropriate type(s) of portable ladder(s).
- Provide specific training for ladder users.
- Establish ladder inspection guidelines.

Supervisors

- Ensure ladders are inspected at predetermined intervals.
- Ensure ladder safety requirements are followed.

Individual

- Attend training.
- Adhere to ladder safety requirements.

Key References and Resources

- Kean University Environmental Health and Safety web site - <http://www.kean.edu/ehs/>
- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov
- Portable Wood Ladders, 29 CFR 1910.25
- Portable Metal Ladders, 29 CFR 1910.26

4.8 Confined Space Entry

Introduction

This policy is designed to protect University employees from potential hazards associated with entering and working within confined spaces such as manholes, vaults, or tunnels.

This policy describes safe work procedures to reduce physical and/or atmospheric hazards and applies to any employee or contractor who enters a confined space as defined by this program

Scope and Application

A confined space is any space that is large enough for an employee to enter, that has a restricted means of entry or exit, and that is not designed for continuous employee occupancy. All of these criteria must be met for a space to be classified as confined. Examples of confined spaces include tanks, pits, certain tunnels, utility vaults, and boilers. The physical and atmospheric hazards often associated with confined spaces can cause serious injury or death to workers. The major factors that lead to injuries in confined spaces include failure to recognize and control these hazards, and inadequate or incorrect emergency response.

PEOSH requirements apply to most activities that require entry into a confined space. Examples of specific activities include, but are not limited to, the following:

- Maintenance and cleaning of boilers
- Cutting or welding in confined spaces
- Telecommunications and electrical utility work performed in manholes and unvented vaults
- Work in excavations or trenches that could develop hazardous atmospheres
- Work in sewers, manholes, pits, traps, and the like

Procedural Description

Kean University requires that all Confined Spaces (PRCS) are entered using the utmost safety as defined by 29CFR1910.146 - Permit Required Confined Spaces.

All currently identified confined spaces are listed in the Kean University Confined Space Entry Program. If a space is not listed but you feel that it should be considered a PRCS, immediately notify EHS.

Several types of protective equipment and material are usually necessary for safe entry into confined spaces. These may include equipment for atmospheric testing, ventilation, communication, lighting, and rescue. Personal protective equipment appropriate for the hazards of the space must also be provided to workers.

Training will be provided to each employee who has access or potential access to a permit space. The amount and type of training needed will depend on the individual's duty assignment. The overall intent of this training is to give employees the understanding, knowledge and skills necessary for the safe performance of their assigned duties in relation to the entry and work in confined and permit required confined spaces.

It is the responsibility of all certified Confined Space Entry personnel to assure non-certified employees and all others are kept away during entry operations. If there is a need for security, notify Campus Police for assistance. The specific procedures for summoning rescue and emergency services for our workplace are also outlined in Confined Space Entry procedures.

Departments must inform outside contractors of the potential hazards that may be encountered during their work at the University. This includes giving the contractor access to any information available on the confined spaces involved in their project.

Similarly, the contractor must inform the Department of any changes made to a confined space in the course of their work. Any change, no matter how minor, would require a re-evaluation of the space before entry would again be allowed.

Roles and Responsibilities

Department

- Survey workplace to identify any confined spaces.
- Evaluate confined spaces found during the workplace survey.
- Develop a written Confined Space Entry Program.
- Develop written entry procedures for all confined spaces.
- Evaluate program and procedures at least annually.
- Provide necessary protective equipment and materials.
- Provide specific training for confined space entry.
- Provide contractors with information on any confined spaces that are involved in a project.

Supervisors

- Recognize confined spaces in the workplace.
- Identify workers who may be expected to enter confined spaces.
- Ensure workers receive general and specific training.
- Ensure workers follow all appropriate procedures during confined space entries.

EHS

- Provide general training.
- Assist in identification and evaluation of confined spaces and their hazards.
- Assist Departments in establishing a written confined space entry program
- Provide periodic audits of the confined space entry program.

Individual

- Attend training.
- Never enter a confined space unless following proper procedures.
- Report potentially hazardous conditions to supervisors.

Key References and Resources

Kean University Environmental Health and Safety web site: <http://www.kean.edu/ehs>

- Confined Space Procedure
- Confined Space Statement of Guidance

United States Department of Labor - Occupational Health and Safety Administration

www.osha.gov

- Permit Required Confined Spaces, 29 CFR 1910.146
- The Control of Hazardous Energy Sources (Lockout/Tagout), 29 CFR 1910.147
- Electrical Safety-Related Work Practice, 29 CFR 1910. 331 - 335
- Personal Protective Equipment, 29 CFR 1910 Subpart I
- Welding, Cutting and Brazing , 29 CFR 1910 Subpart Q

4.9 Asbestos Management

Introduction

Asbestos is a generic term used to describe any of six naturally occurring fibrous minerals. Because of several desirable characteristics, asbestos was incorporated into a number of widely used products, many of which were used in building construction beginning in the late 1800's. By the mid 1980's most products containing asbestos had been removed from the market. When left intact and undisturbed, these materials do not pose a health risk to building occupants.

There is potential for exposure only when the material becomes damaged (e.g., torn or missing pipe insulation coverings) If powdered or friable forms of asbestos are disturbed, fibers may become airborne resulting in a possible inhalation hazard. In nonfriable asbestos products (e.g., floor tiles, roofing materials, etc.) the fibers are bound in a matrix which prevents their release to the air unless the material is cut or abraded. Therefore, these materials present even less of an exposure hazard.

In many cases it is not possible to readily distinguish between asbestos and non-asbestos forms of the same product (e.g., pipe insulation, fireproofing, etc.). In general, laboratory analysis is required to confirm whether or not a material contains asbestos.

Scope and Application

This policy is designed to ensure that University employees follow the appropriate asbestos controls and abatement activities to prevent asbestos exposure to building occupants, maintenance personnel, and renovation contractors.

This policy applies to all University employees who may come in contact with or disturb asbestos-containing material.

Detailed information about the University's asbestos management procedures are contained within the Kean University Asbestos Management Plan. The following information is designed as an overview to the specific procedures detailed within the Asbestos Management Plan.

Procedural Description

Damaged asbestos-containing material should be reported to FCP and/or EHS. EHS is available to assist in determining whether a suspect material contains asbestos and to perform hazard assessments.

Prior to building maintenance or renovation projects, the designated project manager is responsible for arranging for a survey to determine if asbestos-containing building material is present in the work area and if so, whether it will be impacted by the planned work. When appropriate, asbestos abatement is performed before the project proceeds.

Asbestos abatement in educational facilities (including Kean University) is highly regulated by the New Jersey Departments of Community Affairs and Environmental Protection. The requirements include submission and approval of an asbestos abatement design, use of a state-licensed firm to perform the abatement, air monitoring at the perimeter of the abatement area during removal, and inspection and clearance testing of the abated area prior to re-occupancy. If you have any questions concerning asbestos, contact the EHS.

Asbestos Awareness training is provided to FCP employees and is available to others on request.

Roles and Responsibilities

Department

- Send FCP Maintenance employees to asbestos awareness training offered through the EHS.

Supervisors

- Report any damaged asbestos-containing materials to the EHS immediately at extension 7-5109 or 7-5000.

EHS

- Coordinate with FCP for scheduling of asbestos training and refresher programs for new hires and current employees.

Individual

- Attend asbestos training as mandated

Key References and Resources

- Kean University Environmental Health and Safety website - <http://www.kean.edu/ehs/>
- New Jersey Department of Environmental Protection - www.state.nj.us/dep/
- New Jersey Department of Community Affairs - www.state.nj.us/dca/
- United States Department of Labor Occupational Health and Safety Administration - www.osha.gov

5.0 Fire/Life Safety

5.1 General Fire Safety Policies, Procedures, and Instructions at Kean University

Procedures for workplace safety at Kean University

Introduction

Kean University is committed to providing a campus environment that is accessible and at the same time, safe and secure. To achieve this mission Kean University has created this *Health and Safety Guide*. The main focus of the Health and Safety Guide is to ensure compliance with health and safety standards promulgated by State and Federal regulations as well our own campus wide health and safety policies and procedures. Many different types of emergency situations can occur within our campus complex, including fire, explosion, gas leaks, and chemical spills.

Having a plan in place and exercising the plan before an emergency occurs, allows those involved time to respond effectively and in ways that should minimize worker injuries and property damage. It is essential that our campus community be prepared to respond appropriately.

To comply with our Fire Safety Policy and Emergency Action Plan the following procedures apply to all faculty, staff, students and outside contractors.

Scope and Application

PEOSH requires emergency action planning in all workplace settings. Each department is responsible for the development and implementation of a written Emergency Action Plan (EAP) covering the facilities and operations under their control.

Please visit http://www.kean.edu/admin/uploads/fire_evacuationupdate%202011.pdf to view Kean's **Emergency Action Plan**. (EAP)

Procedural Description

Potential emergency situations within a building may require the occupants to evacuate the building. The following information and procedures have been designed to help ensure your personal safety, should a building evacuation become necessary.

Before a Fire Emergency - Planning

- Keep your most important personal belongings readily accessible, especially keys to your home and vehicle, pocketbook, wallet, medications and appropriate clothing for outside assembly. *You may not be able to return to the building for an extended period!*
- Take time to get to know your building. Know the location of at least two of the nearest available exits from your area.
- Do not use elevators in case of emergency *they may not work!*
- Know the location of the nearest available fire alarm pull stations in the building *where you are located* and how to activate them. Fire alarm pull stations have self-inscribed instructions.
- Participate in fire drills and take them seriously.
- Fire Extinguishers; based on this emergency action plan; *only* certain designated Kean employees are certified/trained to use a fire extinguisher. All other occupants of the building must evacuate!
- Note: building occupants are not required to fight fires.
- Be aware of persons in your area who would have difficulty evacuating due to physical limitations during an evacuation.
- Be aware of any rooms or offices where an alarm may not be heard, including, but not limited to some bathrooms and photographic darkrooms.
- ***Accountability:*** *All classroom professors/instructors as well as administrative assistants for each and every department on campus shall be responsible for and utilize a university provided (copies available for download and printing at emergency evacuation attendance roster listing all employees and classroom occupants for each day. <http://www.kean.edu/fehs> - fire safety tab to attendance roster*
- The emergency evacuation attendance roster shall *only be collected* during an actual emergency.

On Discovering - Reporting a Fire

- ***Preferred method of notifying occupants of a fire:*** If you observe fire or smoke activate the building's fire alarm pull station. Fire alarm pull stations have self-inscribed instructions.
- ***Time permitting;*** recover your most important personal belongings that are readily accessible, especially keys to your home and vehicle, pocketbook, wallet, medications and appropriate clothing for outside assembly. *You may not be able to return to the building!*
- If smoke is present, crawl low to the floor.
- Go to the nearest available exit and leave the building. Use the nearest available stairways; *never use elevators!*
- ***Preferred method of reporting fire to emergency response personnel:*** Call University police (ext 911 from a University phone or 908-737-4800) and provide your location and a description of the fire *after you have left the building.*

- Extinguisher Use-If the fire is incipient-(size of a wastebasket) *and* you have taken the *university provided annual fire extinguisher training, use--your safety first--discretion* to select the proper type of fire extinguisher. Always keep an exit at your back. Attempt to extinguish the fire only after evacuation has started and the University Police have been called. *Building occupants are not required to fight fires.* Your safe evacuation should come first and foremost. As such all occupants are required to evacuate!

On Hearing the Fire Alarm - Evacuating the building

- All occupants of the building must immediately evacuate the building by proceeding to the nearest available safe exit and proceed to your designated assembly area.
- Time permitting; recover your most important personal belongings that are readily accessible, especially keys to your home and vehicle, pocketbook, wallet, medications and appropriate clothing for outside assembly. You may not be able to return to the building!
- When you leave your room, close the door.
- If smoke is present, crawl low to the floor.
- Alert all persons in your area as you are exiting the building.
- **Description of Audible Alarm:** The alert tone throughout campus at this time is one of three types of alarms. The newest is a voice/alarm, the second and most common is a horn/strobe alarm and a few buildings still maintain a bell alarm.

If You Are Not Able to Leave-shelter in place

- Feel the doorknob, with the back of your hand, before opening any door. IF IT IS HOT, DO NOT OPEN THE DOOR. If it is not hot, brace yourself behind the door and open it slightly. If heat or heavy smoke is present, close the door and stay in your room. KEEP LOW TO THE FLOOR.
- If you cannot leave the room, seal the cracks around the door with wet towels or other materials. Call University police 908-737-4800 (extension 911 from a campus phone) and let them know your location and that you are unable to exit.
- Open a window a few inches for fresh air and hang a white sheet or cloth out the window to alert the fire department of your location.
- Close all other doors and windows in the vicinity of the fire.
- Stay close to the window, holding a wet towel to your face; and do not open the windows except to alert rescue personnel by hanging a white sheet or cloth out the window.

Exiting - Evacuating the building

- Leave the building using the nearest available exit.
- Do not use the elevator! It may not work in a fire emergency!
- When using the stairwell to evacuate, stay to the right, remaining close to the wall to allow the Fire Department personnel sufficient access to get to the fire floor or location of the emergency. If an exit is blocked by fire or smoke, go to another available exit.
- If all exits are blocked, return to a safe location, close the door and call University police (extension 911 from a campus phone or 908-737-4800) to report your location.

- *After leaving, move away from the building. Do not stand in the roadway! Stay a minimum of 150 feet from the building and meet at the designated assembly area for your location.*
- See the attached *Evacuation Assembly Area Map* for your location: www.kean.edu/admin/uploads/images/CampusPolice/Evacuation_Map.jpg
Campus police will advise if relocation is needed.
- Re-entry; Do not re-enter the building until instructed by either the University Police or fire department officials with authority from the Incident Commander. Often the emergency response personnel silence the alarm prior to completion. A silenced alarm does not mean re-enter. Occupants will be notified to re-enter upon the fire and or police department mobile public address system.

Fire Evacuations: Occupants with Disabilities

It is required that University Police know of Faculty, Staff and student's immobility, whether temporary or permanent. The Fire Safety Director maintains a list of immobile faculty, staff and students. The Human Resources Office and The Office of Counseling/Disabilities notify individuals of the *option* of being placed on the list. Self identification is voluntary and confidential. The campus police dispatcher receives an updated list each semester of all the occupants with disabilities and the designated areas of refuge. Personnel included on the list are met in person by the Fire Safety Director and given individual guidelines to follow along with *a list of all buildings and areas of refuge within each building*. Awareness of occupants with a disability is the key to assisting during an emergency.

Prior to an emergency evacuation of any kind, a partner should be assigned or chosen to accompany and remain with the disabled occupant. Attempting to carry an immobilized person is discouraged. If a fire alarm is activated, the following procedures should be followed at all times:

- The disabled occupant or guardian assigned to the disabled occupant should call extension 911 to notify University Police of their location. If a phone is not readily available, the disabled occupant or guardian assigned to the disabled occupant should ask a messenger to communicate their location to the University Police or The Township of Union/Hillside Fire Department.
- Visually impaired but mobile persons should first be moved out of the rush of traffic and then promptly assisted to the nearest exit.
- Hearing impaired but mobile persons, who may be unaware of the need to evacuate, should be calmly advised and guided to the nearest available exit.
- Temporarily immobilized persons, including people wearing casts and/or using canes or crutches, should be assisted, depending on their ability to go up and down stairs and maneuver through doorways. Proceed into the stairwell and wait on the landing until additional help can be summoned.
- Permanently immobilized persons who have either limited or no use of their legs and must rely on crutches, wheelchairs or walkers for transport should proceed into the nearest available safe stairwell and wait on the landing until additional help can be summoned.
- Most enclosed staircase landings within each building are *listed as an area of refuge*.
- In the event that an individual is unable to exit into the staircase landing, whether because of a physical impairment or due to a fire condition in the hallway, that person is to remain

in his or her room and/or office and notify University Police at (908-737-4800). *See shelter in place guidelines listed above.*

- The University Police and/or the local fire department will arrive to help complete the evacuation. (End of emergency action plan) continuation of general fire safety policy

Resident Hall Evacuation

Resident Hall Directors are ultimately responsible for the fire evacuation procedure in their respective buildings. It is the Resident Hall Director's responsibility to make sure that each Resident Assistant, Desk Assistant, and resident is familiar with Kean Universities *General Fire Safety policy and Emergency Action Plan* for his/her respective building(s). During their initial floor meeting each semester, Resident Assistants will provide fire safety information to the students who reside in their area of responsibility. If a resident has a guest in their residence hall, that resident is responsible for escorting his/her guests out of the building, in the event of an emergency evacuation. Upon fire alarm activation, Resident Hall Directors are to evacuate the building along with all the occupants and report to their designated evacuation assembly area. Once at the designated assembly area, the Resident Hall Directors are to account for their residents. Any unaccounted for occupants are to be immediately reported to the Residence Hall Director and University Police. Under no circumstance should anyone remain in the building during fire alarm activation, unless expressly instructed to do so by emergency response personnel.

Fire Safety Equipment

The safety of the Kean University community is everyone's responsibility, and equipment and facilities are maintained to enhance safety. Accordingly, Kean University has a "*Zero Tolerance*" policy regarding tampering with fire safety equipment. Deliberately causing a fire alarm, falsely reporting a fire or a bomb threat, setting a fire, possessing highly combustible materials, vandalizing any fire system or misusing/blocking any piece of fire equipment (fire extinguisher, pull stations, pull station cover boxes, bells, smoke detectors and sprinklers) are all acts that will be referred to a University hearing officer for adjudication. Violations of this nature may result in severe disciplinary action. Faculty, staff or students having any information regarding a false alarm or fire should report the facts to University Police immediately. Violators will be prosecuted to the full extent of the law.

United State Fire Administration

The following link provides excellent information on fire safety for *faculty, staff and students*. United States Fire Administration-Fire Safety Information: <http://www.usfa.fema.gov/citizens>

Fire Drills –Campus Wide

Fire evacuation/lockdown drills are conducted twice a month for the University Child Care Center. Fire evacuation drills for all other campus buildings are scheduled on an annual basis with the start of the fall semester each year. This annual event provides "hands on" training for our campus community on the proper procedures during an emergency evacuation of a building. The drills are designed to train our faculty and staff and evaluate their efficiency and effectiveness in carrying out emergency evacuation procedures. Occupants are reminded not to use the building's elevators, as they may not function in a fire condition. Campus police participate and receive training as well. Campus Police are located inside and outside to assist

with guiding building occupants to their designated area of assembly. *Campus Police receive annual training* on the safe and orderly emergency evacuation of all students/faculty and staff.

Fire Drills –Residence Halls

Fire drills are conducted four times a year (two each semester) to further insure the safety of students who live in University housing. The first drill is scheduled within the first ten days of the semester and all residents are told in advance. The second drill is conducted before dawn or after dusk with no advance warning.

Resident hall students are reminded to read their *Residence Life Student Handbook* that explains additional policies and procedures. www.kean.edu/~reslife/handbook.html

Fire Safety Education and Training- (Resident Assistants - RA)

Prior to the beginning of each fall semester the Fire Safety Director provides training and education to all Residents Assistants (RA). The RA training includes four (4) main components. (1) Fire prevention-(the RA's role). (2) Occupant awareness – (building awareness and evacuation procedures). (3) Fire detection – (smoke detectors vs. nuisance alarms) and (4) Fire suppression – (sprinklers do's and don'ts) within all eight residence halls.

Fire Alarm Inspection and Testing

Inspection and testing of all fire detection and suppression systems is performed by independent companies to ensure compliance with all applicable codes and standards. In accordance with state law, every fire alarm system throughout each building is tested / inspected once a year by our authorized fire system maintenance contractor to make sure the systems are working properly.

The Fire Safety Director is responsible to schedule the inspection and testing of all fire alarm systems including smoke detectors, sprinkler systems and fire extinguishers. The testing and inspections are scheduled during the summer months, with notices sent to key building occupants. The key building personnel are responsible for notifying the building occupants of the date and time of the test. The independent fire alarm contractor is also responsible to keep the building occupants informed as to when testing is occurring, how emergency notification will be provided during testing and confirmation upon completion of the testing.

The fire alarms systems throughout our campus are monitored 24 hours a day, 365 days a year at the Kean Police Headquarters.

Sprinkler systems are tested quarterly and inspected monthly. All of the Residence Halls are provided with a complete sprinkler system. Some of our academic buildings have sprinkler systems as well.

Cooking equipment in food service facilities are protected by overhead hood suppression systems. This is like a fire extinguisher that is hooked up to the overhead kitchen hood above the stove. These systems are required to be inspected and tested every 6 months.

Kean University's fire safety program is under the jurisdiction of the Department of Community Affairs, Division of Fire Safety. Under the authority invested in the Division of Fire Safety by

the Uniform Fire Code, this state agency inspects all campus facilities. Some buildings are inspected quarterly depending on their classification and use. Kean University's Fire Safety Director periodically inspects the buildings throughout the year to insure compliance with all State codes.

Fire extinguishers

Portable fire extinguishers can save lives and property by putting out or containing small (incipient) fires until the fire department arrives; but portable extinguishers have limitations. Because a fire can grow and spread so rapidly, the number one priority for residents is to evacuate out of the building using the nearest safe exit.

Note: Policy reminder: All employees/students and faculty are required to evacuate the building upon fire alarm activation.

The *only* persons authorized (at-their safety first-discretion) to attempt to extinguish an *incipient fire* (size of a wastebasket) are facilities employees and campus police/security personnel *who have received our university provided annual fire extinguisher training.*

There are approximately 800 fire extinguishers on campus. All fire extinguishers are inspected monthly, and hydrostatically tested in accordance with National Fire Protection Association - N.F.P.A.10. If anyone sees a fire extinguisher with an old inspection tag or an extinguisher that is damaged or missing, please report the location to the Fire Safety Director at extension 75010. Tampering with a fire extinguisher is a violation of the law and violators will be prosecuted to the fullest extent of the law!

Fire Extinguisher Safety Tips:

- Use a portable fire extinguisher, if the fire is incipient-(size of a wastebasket) and if you are *authorized* by having taken the university provided annual training- remember these useful tips;

<http://www.fireextinguisher.com>

- To operate a fire extinguisher, remember the word **PASS**:
 - P**ull the pin. Hold the extinguisher with the nozzle pointing away from you & release the locking pin.
 - A**im low. Point the extinguisher at the base of the fire.
 - S**queeze the lever slowly and evenly.
 - S**weep the nozzle from side-to-side while aiming at the base of the fire.
- Read the instructions that come with the fire extinguisher and become familiar with its parts and operation before a fire breaks out. The Fire Safety Director provides fire extinguisher training to certain designated employees based on Kean's Emergency Action Plan.

- Most fire extinguishers are installed close to an exit. Keep your back to a clear exit when you use the fire extinguisher, so you can make an easy escape if the fire cannot be controlled. If the room begins to fill with smoke and fire, leave immediately.
- **Know when to go. Fire extinguishers are one element of a fire response plan, but the primary element is safe evacuation out of the building.**

SPRINKLERS

A properly maintained and working sprinkler systems is an important part of the fire protection system within all Kean University residence halls and several other campus buildings. All residence halls are mandated by state law to have a sprinkler system. Like fire alarms, these systems are checked on a regular basis. Their purpose is to suppress a fire and keep it from spreading. Water flowing in the system triggers the fire alarm. Please report any leaking sprinkler equipment to the Fire Safety Director at extension 75010, Resident Life & Housing Office at extension 76800 or University Police at extension 74800. Do not hang any objects or decorations from sprinkler heads and pipes. This action can not only cause damage, but it is illegal if done intentionally. Residential Life and Housing is charged with reporting any damage in residence halls--and will charge/bill the person responsible for damages.

Fire Prevention

Throughout the University, including the Residence Halls

The following items are prohibited to assist with fire prevention at the university. Please be advised that while this list is extensive, it is in no way *all inclusive*. The list is intended to be used as a guideline.

- The possession of candles, incense, hookahs, bongos and any open flame devices are not permitted in any building unless properly authorized by the Fire Safety Director
- Live Christmas trees and wreaths, unless properly authorized by the Fire Safety Director.
- Neon signs and string lights (e.g. holiday lights)
- Firearms, weapons, paintball guns, fireworks, explosives, chemicals (except in authorized labs), firecrackers and like items.
- University authorized and sponsored Fireworks presentations must have the properly authorized permits-insurance from local and state authorities, including written notification to and approval from the local township municipal and fire department authorities. It is also required that the neighboring community surrounding the campus be notified at least 48 hours in advance of any authorized and properly licensed fireworks displays. The permit procedures should include arrangements for the proper fire department apparatus and personnel to provide the appropriate fire protection and safety at the fireworks presentation. See the Fire Safety Director for details.
- **Unauthorized modification of space and the furnishings contained within, including the installation of air conditioners, refrigerators, paintings, and any personal furnishings is prohibited.**
- Do not decorate common areas with hanging or other items
- Nothing may be attached to any egress window or egress door (room entry door, bedroom door, hallway door etc.)
- **Furniture such as chairs, couches, mattresses, waterbeds etc., other than those provided by the University.**

- Do not move furnishings from their original locations or store items on top of them that are less than 18” from the ceiling or bottom of any sprinkler heads.
- Disorderly room/office conditions and/or the storage of excessive amounts of paper, trash or recyclables are prohibited. Prohibited items continues on next page ;
- Trash and recycling containers must not interfere with the buildings means of egress and cannot be stored in stairwells.
- Personal lamps including halogen lamps are **not** allowed
- Motor vehicles of any kind, including but not limited to, mopeds, motorcycles, and motor bikes are prohibited in any of the University’s buildings.
- Electrical heat producing appliances (stoves, George Foreman grills, toasters, toaster ovens, hot plates, and portable heating units) are prohibited, including all appliances that are not *UL listed* and appliances that are recalled by manufacturers or government agencies.
- Open coil appliances for heating water and beverages are prohibited
- Electric heaters are *only allowed if provided by the University*
- Blocking the means of egress within hallways/walkways and staircases in any building is prohibited.
- Door stops, wedges and other unapproved hold-open devices on fire doors shall be prohibited. Self-closing and automatic-closing devices shall be approved. Where it is desired to keep doors open, an automatic-closing device actuated by the fire detection system shall be provided in accordance with the building code. All unauthorized devices used to prop open doors shall be removed immediately.
- Smoking is not permitted within any building on campus.
- Possession of highly flammable materials including gasoline, their containers (whether containing fuel or empty), propane cylinders.
- Kerosene lamps, oil lamps ,alcohol lamps, lighter fluid and other highly flammable substances
- Setting or fueling a fire of any size.
- Use of fire-fueled or electric grills for any purpose is prohibited.
- Portable LP gas cooking equipment such a barbecue grill is restricted to our dining hall vendor via a permit process with the Division of Fire Safety. The cooking equipment must be commercial grade and is prohibited;
 - a. On any portion of a building;
 - b. Within any room or space of a building;
 - c. Within five feet of any combustibile exterior wall;
 - d. Within five feet, vertically or horizontally, of any opening in any wall; or
 - e. Under any building overhang.
- A person shall not cause or allow *open burning* unless approved in accordance with the Uniform Fire Code and the KEAN Fire Safety Office.
- A person shall not take or utilize an open flame or light in any structure or other place where highly flammable, combustibile or explosive material is utilized or stored.
- The installation of personal locks or chains, splicing cable lines, use of materials that damage the surfaces of the building interiors or prevents authorized equipment from working properly is prohibited.
- In residence halls-do not use a steam iron in the bedrooms
- Do not spray aerosol cans near smoke detectors.
- Power strips without an internal circuit breaker and UL approval are prohibited.
- Electrical cords shall *not* be routed unsafely (under carpets, in pathways, through doorways, taped down etc.)

- Extension cords and non-breaker multi- Plugs adapters are prohibited.
- Plug in air fresheners are prohibited.
- Power strips may not be used in series to gain greater length. Prohibited items continues on next page
- Spliced, taped or frayed cords must not be used
- Do not hang or attach anything to, or on, any lamp, light fixture, sprinkler head or any other fire detection and suppression devices.
- Anything that damages, misuses, or otherwise *interferes with* the ready and proper operation of any fire detection or fire suppression equipment and related signs is forbidden. This includes, but is not limited to: sprinklers, heat and smoke detectors, extinguishers, fire alarm control panels, pull stations, annunciator, emergency lighting, exit signs, emergency floor plan evacuation signs.
- Intentional activation of a fire alarm when there is no fire emergency is prohibited
- In the residence halls-individual(s) responsible for causing false alarms will be fined \$250.00 and will face both disciplinary and legal action.
- In residence halls do not move wardrobe furniture from their original locations or store items on top of them.
- In residence halls-items stored in the kitchen hallway closet must be at least 36 inches from the electrical circuit breaker boxes.

Consumer Product Safety Commission

This following is an excellent link to review consumer products for possible recalls due to safety concerns that may occur with consumer product. <http://www.cpsc.gov>

Use of Places of Assembly

- Arrangement of “set ups” in all multi-purpose rooms and all assembly occupancies must be made through the Office of Facilities and Campus Planning. The Kean University personnel assigned responsibility for “set ups” will review all “set up” plans with the Fire Safety Director to ensure compliance with the State of New Jersey, Uniform Fire Codes. To ensure continued compliance with fire codes, re-arrangement of previously approved “set ups” is prohibited without the proper authorization of the Fire Safety Director or designate.
The individual requesting the “set up” is responsible for ensuring that the approved “set up” is not re-arranged. Re-arranging a “set-up” could in-advertently create a hazardous life safety situation.
- The occupancy load for all places of assembly must be followed *without exception!* Exceeding the occupancy load is cause for the function to be suspended until the legal occupancy load is achieved.
- Under no circumstances are tables and chairs, other furniture or like objects allowed to be “set up” in hallways that are avenues to **EXITS** or part of the *means of egress*.
- Certain buildings on campus will require a “multi-use” permit from the New Jersey Division of Fire Safety. Please see the Fire Safety Director for a list of buildings/rooms.

Fire Lanes

The New Jersey Division of Fire Safety may require and designate public or private fire lanes as deemed necessary for the efficient and effective operation of fire apparatus. Fire lanes shall have a minimum width of 20 feet. Designated fire lanes shall be maintained free of obstructions and

vehicles and shall be identified in an approved manner. Parking in a fire lane/zone is strictly prohibited and violators will be prosecuted to the full extent of the law.

Fire Safety Education and Training-(campus wide)

At the beginning of each fall semester our campus community is provided literature on campus fire safety including emergency response protocol and procedures. In addition to fire safety information “hands on” evacuation training is provided as well. This information is provided to all faculty, staff and students

Plans for future improvements in fire safety

The fire safety office is continually reviewing our campus facilities/buildings and educational/awareness programs to provide a “ built in” fire safe environment in which the faculty, staff and students are prepared/ trained and able to react, evaluate and decide on the correct action should an emergency occur.

Uniform Fire Safety Act/Uniform Fire Code

Kean University is bound by the regulations set forth in the Uniform Fire Safety Act. A copy of the New Jersey Uniform Fire Code and the New Jersey International Fire Code is on file at the office of the Fire Safety Director located within the Maintenance building.

The Uniform Fire Safety Act also referred to as The Uniform Fire Code of the State of New Jersey (N.J.S.A. 52:27D-192 et seq.) was approved November 12, 1983. The ACT establishes a uniform, *minimum* fire safety code enacted by the **Senate and General Assembly of the State of New Jersey**.

Roles and Responsibilities

Department

- Develop a written Emergency Action Plan which incorporates all the required elements.
- Assign responsibility for the plan.
- Train workers in the actions required of them under the plan.

Supervisors

- Ensure workers are trained.
- Follow plan in the event of an emergency.

EHS and Public Safety

- Provide assistance in development and implementation of plan.

- Periodically audit the plan.

Individual

- Read and understand elements of plan.
- Follow plan in the event of an emergency.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site

www.kean.edu/ehs

- General Fire Safety Policy for the Campus
- http://www.kean.edu/admin/uploads/fire_evacuationupdate%202011.pdf

New Jersey Department of Community Affairs/Division of Fire Safety

<http://www.nj.gov/dca/divisions/dfs/>

United States Fire Administration

www.usfa.dhs.gov/citizens/index.shtm

5.2 Cutting and Welding Policy

Introduction

Cutting and welding operations (commonly referred to as hot work) are associated with machine shops, maintenance, and construction activities, as well as certain laboratory-related activities, such as glass blowing and torch soldering. Potential health, safety, and property hazards result from the fumes, gases, sparks, hot metal and radiant energy produced during hot work. Hot work equipment, which may produce high voltages or utilize compressed gases, *requires special awareness and training* on the part of the worker to be used safely. The hazards associated with hot work can be reduced through the implementation of effective control programs.

Scope and Application

PEOSH, the Uniform Fire Code as well as our property insurance carrier, prohibit cutting and welding operations unless appropriate steps are taken to minimize fire hazards. This includes such items as removal or guarding of combustible materials and, when possible, restricting hot work to specially designated areas. Departments where hot work is performed are responsible for ensuring that adequate controls and procedures are in place before work begins.

Procedural Description

- Prior to the initiation of a cutting or welding event or project, an employee, faculty, student or contractor must obtain a Cutting and Welding Permit from the Office of Campus Planning and Facilities.
- A permit will be issued for a period not to exceed one week. An extension of one week may be requested on the original permit. The Office of Fire Safety

reserves the right not to extend the permit for good reason(s). A new permit must be secured for work extending beyond the extension to the initial permit.

- Individuals and contractors requiring a permit should be prepared to describe the nature of their work, potential fire hazards involved, the fire extinguishing equipment required, etc.
- A Fire Watch is required at all cutting and welding job sites due to the potential for fire. A Fire Watch requires that a person be trained in the use of fire extinguishers and be familiar with the facility and the procedures for sounding a fire alarm. The responsibility of fire watching services shall be solely that of the permit holder's.
- Monitor Period-Prior to completion of the one hour fire watch the permit holder must contact campus police (908-737-4800) to request a (2) hour follow up *monitoring period*. Campus police will provide personnel to review the area where the hot works was performed. The campus police/security personnel assigned as a monitor will inspect the area where hot works was performed at one hour intervals.
- The person conducting the Fire Watch must:
 - Watch for fires.
 - Notify the building occupants in case of fire by sounding the alarm.
 - Confirm notification of the Fire Department by calling campus police at 911 from a university phone or directly by dialing the Campus Police at 908-737-4800-or in house extension 74800
 - Attempt to extinguish the fire within the capacity of the equipment available without endangering his/her life.
 - Inspect the work area and all adjacent areas to which sparks and heat might have spread including floors above and below and on opposite sides of walls for at least **one hour** after the work was completed.
- An appropriate fire extinguisher (a minimum of 2A:20-B: C rating) is required to be readily available at the location where welding and cutting is performed and one portable fire extinguisher with a minimum 2-A: 10-B: C rating shall be attached to all portable welding carts. Fire extinguishers must be in full operational order, inspected and certified prior to start of cutting or welding events.
- Under no circumstances will building fire protection systems be shut down unless coordinated through the Fire Safety Coordinator. Projects which have shut down building fire protection systems without such approval are subject to immediate work stoppage by the Fire Safety Director once discovered and possible sanctions from the New Jersey Division of Fire Safety.
- The Cutting and Welding Permit shall be posted at the work site.
- All work sites are subject to inspection at any time.
- The permit terminates with the end of the time period designated on the Cutting and Welding Permit.
- All cutting and welding operations must cease by 3:00 PM daily. This requirement allows time for the Fire Safety Coordinator to reactivate all fire alarm devices for the evening. All cutting and welding work to be performed after 3:00 PM or on weekends must be so-stated on the permit and pre-approved. Projects which perform cutting and welding work without such

approval are subject to immediate work stoppage by the Fire Safety Director once discovered.

- Welding and Cutting is prohibited in locations where flammable liquids/vapors/lint/dust/ or loose combustible stock is present where hot sparks/metal from welding/cutting operations are capable of causing ignition or explosion of such materials. Protection of combustibles-including floor, ceiling and wall openings within 35 feet of welding/cutting must be provided with noncombustible shields/covers.

You can obtain a cutting and welding permit by clicking on the link below.

Hot work permits; <http://www.kean.edu/fehs/forms/FireWeldingPermit.pdf>

Roles and Responsibilities

Department

- Develop a hot work permit.
- Provide workers with specific training on hot work procedures.

Supervisors

- Issue hot work permits.
- Ensure procedures are followed.

EHS

- Provide general training on hot work procedures.
- Provide a periodic audit of hot work procedures.

Individual

- Attend training.
- Follow hot work procedures.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site

<http://www.kean.edu/ehs>

(Click on fire safety tab)

- Hot Work – Cutting and Welding Policy
- Cutting and Welding Permit

New Jersey Department of Community Affairs/Division of Fire Safety

<http://www.nj.gov/dca/divisions/dfs/>

State of New Jersey International Fire Code, New Jersey Edition 2006, Chapter 26

National Fire Protection Agency, 51 B

www.nfpa.org



Kean Theatre Management and Programming Office Safety Manual

This manual is compiled for the Theatre Management & Programming Office (TMPO) which is charged with the responsibility to review, follow, and update these workplace guidelines as needed.

Executive Director-Lindsay Gambini

Production Manager-Mickey Kaufman

Box Office and House Operations Associate- Jennifer Clapp-Milone (Curving)

Emergency: Contact Campus Police @ 908-737-4800 or 911 from a campus phone

Important; If you dial 911 via your *cell phone* advise the dispatcher of your location (Union, NJ-Kean University) before stating your emergency. Your *cell phone* may connect to a regional 911 dispatcher.

Remember to program the campus police phone number into your cell phone in advance of an emergency. Campus Police can be reached at 908-737-4800.

Students Faculty and Staff

Welcome to the theatre! This handbook will familiarize you with our safety procedures and should supplement hands-on training. Our procedures may be different than other theatres; just because you have worked in a similar situation, does not mean that you are trained to work here. All students and staff must be trained and abide by the rules and regulations set in this handbook and as instructed by training staff.

Theater work, by nature, is physical and the use of powered equipment is more dangerous than general classroom or office work. However, if you use common sense and follow these safety procedures working on stage will be fun and safe for you *and* your fellow workers.

Here are a few basic guidelines that can help keep you safe.

1. Never work alone.
2. Know your building and be aware of exit locations.
3. Know where the phone is and how to use the system if necessary.
4. Know where the First Aid Kit is.
5. Check the First Aid Kit *monthly* to make sure it is properly stocked.
6. Take Breaks at regular intervals.
7. Ask questions at anytime.

General Safety

The most obvious safety rule is: be careful and aware at all times. Pay attention to what you are doing and *do not rush*. Repetitious jobs are more likely to cause inattention.

Note: All production sets/construction sets that will exceed 30” in height need to be brought to the attention of Kean’s Office of Fire Safety at least 30 days before construction begins. The Office of Fire Safety will determine if a building construction permit will be needed. If necessary the Office of Fire Safety will obtain a permit for a third party safety inspection of the stage set. (Department of Community Affairs-Building Construction Inspector-)

Being careful means being careful all the time. You can be careful for years and get hurt in two seconds due to inattention. This is entirely under your own control.

Being careful is your best defense against injury.

Avoid danger by using common sense. Some people accept a greater risk of danger in order to work faster, more conveniently, etc. Do not hurry and cut corners on safety. Some people take greater risks because they have a strange notion of invulnerability, or as a show of bravado. This will gain no respect for you in our organization, and won't be tolerated.

Working carefully, safely, and obeying all safety rules is expected. Doing so protects you and your co-workers. Failure to follow safety rules and/or safe working procedures may result in disciplinary action.

Contact the Kean University Office of Environmental Health and Safety who can assist with potential safety concerns and ensure compliance with rules and regulations promulgated by various entities. The Environmental Health and Safety office can be reached at 908-737-5109.

Proper Attire

1. No loose, long or baggy clothing. It can get caught in moving parts, machinery or snagged on splinters, etc.
2. Boots are recommended for all shop activities. Shoes must provide adequate impact protection as well as good ankle support. Wear socks. No open toed footwear.
3. Do not wear gloves while using power tools; these can get caught in moving parts.
4. Jeans or work pants are recommended.
5. No long or large jewelry.
6. Wear clothes that will protect you from dust, etc. You will get dirty and stained.
7. Long hair must be worn tied back and put down your shirt or secured up with clips, pins, a hat, or similar.
8. Long sleeves are required for metal working.
9. It is good practice to bring work clothes, change and then change back. This way you don't bring sawdust and dirt out of the theatre.

Personal Protective Equipment (PPE)

The shop will provide you with safety equipment. Your safety is the number one concern. We will never knowingly put you in a position to be over exposed to hazardous materials or conditions. We welcome questions if you have any. We will attempt to explain things to you.

Feel free to request safety equipment at any point.

Masks:

Dust masks are used for comfort from saw dust. They will do nothing to protect from fumes, vapors or other assorted toxins. Read the box for instructions on how and when to use these.

Respirators will be available if needed. If you feel as though a particular project may require a respirator, please ask.

Ears:

We have earmuffs and earplugs for high noise jobs. Remember that you are not the only one making noise in the shop, and just because your project may not be loud, your co-workers may. Please keep ear protection on or easily accessible at all times.

Eyes:

Eye protection is required at all times in the shop.

You may not be using a power tool or a chemical but someone else might be. You can be struck by flying debris and splashing solvents or paints. The eye wash station is located next to the door entering the break room.

Power Tools

Each power tool has its own set of safety rules. They are safe when properly used, but can cause serious, even fatal accidents when misused.

You will be trained on each power tool before you use it.

Most, power tools have rotating parts that can wind you in like a fishing reel if they catch on clothes, hair, or jewelry. Power tools can throw debris at you, so eye or face protection is necessary. Ear protection from loud noise is also often necessary. Make sure the work surface and floors are clear, and get EVERYTHING ready before you hit the ON switch.

DO NOT operate a power tool until you have been properly trained.

Never use a tool in a way that was not discussed during training. Always ask if you have any questions regarding the correct use of a tool.

Pneumatic tools are power tools also. You must be taught each one before use. Most also have safety guards. NEVER defeat the safety or guard to use these tools in a manner they were not made for (it is not a target gun!)

Hands

Hands, as well as wrists and forearms, are most susceptible to injury. Watch the cutting edge of any tool, especially power tools, and be aware of where your hands are in relation to it. Pay attention and do not get distracted.

There is a dangerous temptation to hold parts together with one hand while shooting pneumatic tools with the other. Sometimes staples and nails turn inside the wood and poke out where you do not expect them.

The number of bad cuts from matte knives or chisels is incredible. The simple rule is to *keep both hands behind the direction in which the sharp edge is going and never pull a blade towards your body.*

Lifting and Carrying Heavy Objects

1. Walk the path of travel first to make sure it is clear and doors are propped open.
2. Lift correctly: bend your knees and lift with your legs.
3. Communicate with others.
4. Look where you are going or use a spotter, especially through doors and around corners.
5. Be aware of the back end of what you are carrying, and what's behind you.
6. Back braces are available. If you would like to wear a brace, inform your supervisor and one will be given to you.
7. When carrying tall objects like a flat or ladder, lift with one hand high and one hand low. That is, lift with one hand which carries the weight and the other hand extended to help balance the object.

8. It is all too common to set heavy platforms or walls down on one's toes. Awareness and communication with fellow co-workers are the only prevention.

Machismo will only get you hurt. If you are losing your grip or if something is too heavy tell the person you are carrying it with take a rest, get a better grip or more people. This is much better than dropping it and having someone suddenly bear the entire weight at once. If you ever feel as though an object is too heavy, please get additional people to help.

When you lean scenery or materials against a wall, be sure that the object has a sufficient distance between its base and the wall, so it will not fall back by itself. Use a block or weight to brace if necessary. *Never try to stop a falling object; get out of the way!*

Heights

Working on ladders, at the technical galleries, or on the catwalks, presents a potential for a fall. When you must use a ladder, always be sure it is correctly positioned and stable. Do not stand on the top or above any steps indicated as "NOT A STEP" on the label. Before you get on a ladder, make sure that all four legs are firmly on the floor.

Do not leave tools and hardware or anything else on top of a ladder. The next person who moves the ladder will get hit in the head by a falling object. When you are working above on a ladder you must take extra precautions. You need to be aware of overhead scenery and lighting instruments and the electrical cable. Do not have loose items in pockets that may fall and tools should be attached to you. You are responsible to make sure the people working beneath you know you are above them, and whenever possible they should be cleared from the area. If by chance an accident occurs and you do drop something, you should yell:

"HEADS!"

Do this clear and loud so people know where the warning is coming from and can safely get out of the way of danger! If you are below and hear "heads!" yelled, get out of the way. Do not look-up to see what is falling.

If you are not comfortable with heights do not put yourself in that situation. Never hesitate to ask to work on another task you are more comfortable with. You should never work in a position in which you feel unsafe.

Fire Safety

Many of the materials in the shop are combustible. Paint solvents, etc. are highly flammable and are therefore kept in a designated location. Welding and grinding produces sparks. Paper,

sawdust, oil, and all flammable items must be moved away from the work area during these procedures.

Welding/soldering etc will require a “hot work” permit. See Kean’s General Fire Safety Policy to obtain a permit from the Kean University Fire Safety Coordinator.

Hot work permits: <http://www.kean.edu/ehs/>

Know where the fire exits are in the shop.

Know where the fire extinguishers are and what types we have in the shop. You will be trained on how to properly use a fire extinguisher.

All flammable and compressed liquids and gasses (spray paint, WD-40, etc.) must be stored in the flammables cabinet when not in use. In the event of a fire these items can explode shooting metal scraps around the room, and burning people in the vicinity. Be sure that these items are stored properly whenever not in use.

During a Performance

The key to being safe during performance is planning ahead. Have an emergency plan in effect for the theatre. When an audience is in the theatre, a person should always be standing by with a flashlight, microphone, and a script of what to tell people during different emergencies. Develop this script and have someone ready to respond during every performance

No matter what the requirements of the show, a clear 44” pathway to the doors marked with exit signs should be maintained.

Design change lights into the show so that crews and actors can see during scene changes.

Use glow tape to indicate edges of platforms, edges of flats, etc.

Strike

During strike, a lot of work goes on in a short amount of time. Make sure you are aware of all the things going on around you. The fast work pace and the extra enthusiasm that striking a show can generate does not change the need to pay attention and follow all the rules for working in the theater and with power tools. Pay extra attention to exposed nails and staples in wood and debris on the floor. Masks or PPE should be worn during strike.

Airborne Health Hazards

Because the shops primarily work with wood, the use of dust masks may help prevent some dust particles from getting in the nose. Note: these do not protect from vapors and fumes.

Paint solvents, adhesives, and welding produce toxic fumes. When using anything that produces toxic gasses you and those around you must wear a respirator and work in a well ventilated area. Read the label and the Material Safety Data Sheet (MSDS) database on line for every product prior to use.

Welding should only be done under the supervision. Doors must be opened and the large exhaust fan on. A box fan can be used near the work to pull the fumes from the work area. The bright blue glare from welding is an eye hazard. A brief glance will not hurt, but do not stare at it. When welding, be sure you are in a clean and saw dust free area. Stray sparks can cause fires.

Lighting and Electrics

Only trained workers should touch the stage lighting equipment. If you need to move a piece of electric equipment you must get permission.

Lighting instruments can become hot very quickly. Wearing gloves is necessary while touching live (lit or recently lit) instruments.

Note: Electric appliances/devices installed into/onto the *stage set* for the production must be inspected by our campus electrician for compliance with the National Electrical Code. Please contact the office of fire safety on campus to arrange the electrical inspection.

If you see a cord, plug or light that appears to need repair, inform the technical director immediately.

When working at heights, all tools must be tied off (i.e. line tied to a tool and to your belt, etc.).

Do not carry lights up and down stairs or ladders. Rig a line and properly tie the light to the line. Raise the light carefully using a hand over hand technique on the rope. Have another person on the catwalk ready to lift the light over the rail and place on the catwalk floor. Have a line and bucket at each catwalk for lowering and rising of gel frames, color, and templates.

Lighting dimmers have limits to the lamp loads they can handle. Overloading dimmers can cause a fire hazard. The wattage of the bulbs MAY NOT exceed that of the dimmers they are plugged into. Common lamps and wattages include:

Fixture	Lamps
Fresnel	BTL 500W
	BTN 750W
Ellipsoidal / Source 4	HPL 575W
	HPL750W
	EHG 750W
Source 4 'Parnel'	HPL 375W
Cyc Lights	EYC 75W MR-16
Source 4 PAR	HPL 575W
Dimmers	2.4 kilowatt (2400W)

Several methods exist for changing the color of light projected, most commonly, the use of color filters such as gels, tinted or dichroic glass. Several companies sell this media and only materials intended for theatrical applications should be used. *Common materials will not withstand the intense heat and light of stage lighting and may be a fire hazard.*

Products that change the shape or texture on the light emitted, called gobos, are also available. Only products specifically designed for this purpose are allowed to be used

Use only heavy duty jumper/'two-fer' cables of SO 12/3 wire.

Dress and label all cable properly.

Special Effects

Fog or Smoke

Commercially available fog and smoke machines may be rented or purchased from various theatrical supply companies. Using smoke bombs, loose dry ice or fire extinguishers for this type of effect is *prohibited*. Planning must include the proper volume of smoke or fog and ensuring that exit aisles and doors are kept visually clear.

Note: Contact the Production Supervisor and the Fire Safety Coordinator if a fog or smoke effect is planned. If fog or smoke is to be used in a production, warnings should be posted at the front

of house or entrance doors to the theater as well as in a program, if distributed. Example: "WARNING: Synthetic fog is used during this performance".

Strobe Lighting

Certain people with epilepsy and photosensitivity may suffer a seizure if exposed to flashing or strobe lighting. If strobe lighting is to be used in a production, warnings should be posted at the front of house or entrance doors to the theater as well as in a program, if distributed. Example: "WARNING: Strobe lights are used during this performance."

Housekeeping

- Clean up your work area at the completion of each project. Do not leave a mess to clean up until the end of the day.
 - Do not leave tools and supplies out unnecessarily.
 - Do not let your work area become too cluttered; this can lead to trip hazards. *Clean as you go.*
 - Flatten or remove nails in used lumber.
 - Do not leave long sticks in trash barrels. They can poke others in the eyes.
 - Do not block fire extinguishers, doors, or marked tool-safety areas.
 - Keep pathways to fire exits and for crossing the shop clear.
 - If food is consumed during breaks, make sure trash is properly disposed of. Food left out will attract rodents and cockroaches.
 - Keep a clean broom to sweep draperies. This broom should be for this use ONLY.
 - Keep the stage mop clean. A sour mop is the worst!
 - Account for all tools at the end of a work period.
 - Leave the house curtain closed, or stanchions and railings across the stage apron to prevent falls off the stage by cleaning or other school personnel.
-

Stage Floor

1. Deck should be swept and mopped using a clean well wrung mop, before and after every work call and performance.
2. Never wax a stage floor.
3. Spread weight and use large rubber casters when rolling any equipment over the floor to prevent marring.
4. Make sure chips and splinters are repaired immediately, and screws and nail removed immediately.

Rigging

The person responsible for raising and lowering scenery or equipment must make sure that people are out of the way, that all hazards are cleared and that everyone on stage knows that you are about to move something in or out (down or up) on stage.

Use loud verbal warnings so all can hear you over all other work going on at the time. This goes for every action from lifting a bucket up to the catwalk to moving a counterweight or motorized batten, i.e. “Lineset 3 coming in!” or “Bucket lifting out!”

It is the responsibility of every person on deck to verbally acknowledge a fly call, i.e. “thank you!”

Never stand or cross underneath moving equipment.

Ropes and cables age and wear. Inspect the lines as you are working with them. Do not use any rope or hardware or cable that is worn or in questionable condition. Never rig with anything that you are not sure how to use. Never rig using a technique or hardware in which you do not know the rating. We do not want to endanger the lives of anyone. *If you have a question always ask someone who knows.*

Only trained persons may operate the rigging.

Counterweight Rigging

When adding or removing weight from a batten, you must also add or remove weight from the arbor. The goal is to keep these two balanced at all times. NEVER add or remove weight from one side without adding or removing the same to the other. Always be sure you are adding or removing weight from the proper lineset. When a lineset is properly weighted, the arbor (offstage) load will be slightly heavier than the batten. This way, if a lineset accidentally comes loose, the onstage load will go out, not in. When stacking weight, remember to offset the cut corners to allow for easy access to each brick. Your fingers will appreciate this practice.

The bricks painted yellow are the base weight. These bricks should never be removed as they counterweight the base rigging parts.

Motorized Rigging

Even if you have operated motorized rigging in the past, do not assume you understand our control system or procedures.

Moving any motorized rigging requires two people: one to operate the controls and one to spot. The spotter must first make sure the equipment and area is free and clear from debris and people. The spotter must communicate this check to the operator. The operator should make a loud verbal warning before starting any equipment. While moving, the spotter must keep checking that the equipment is free from any obstructions or fouling; this may require the spotter to move around the equipment to view from various angles. The spotter should give clear updates, i.e. “5 feet!” and should call “stop!” ahead of any targets knowing there may be a delay between this call and the operator’s reaction.

All motorized rigging has limits built in so equipment cannot be overrun. Some rigging also has intermediate limits set for convenience. Consult trained staff for more information.

In Case of an Accident

- Stop all work (i.e. “stop!” or “hold!” or “help!”).
- Report all accidents to the nearest person in charge.
- Call the appropriate emergency number(s) – Campus Police at 911 from a campus phone or 908-737-4800. *Do not hesitate to call 911 if you suspect serious injury; you will NOT get in trouble for calling, even if emergency services aren’t required.* Place the Campus Police phone number in your cell phone ahead of time. If you call 911 via your cell phone it may connect to a regional dispatcher. Provide the regional dispatcher your location i.e. Kean University Union, N.J. first!
- Things you can do to be of help if an accident or emergency occurs:
 - Locate the fire extinguisher(s).
 - Locate the first aid kit.
 - Locate the eye wash and emergency shower.
 - Open doors, clear paths, meet and direct emergency personnel.
- Document all accidents.

Emergency Procedures

For any emergency including injury, illness, fire or an explosion,
911 or Campus Police at 908-737-4800.

Medical Emergencies

If a serious injury occurs, immediately call 911 or Campus Police at 908-737-4800. First aid and/or CPR should only be administered by trained individuals. Campus Police can arrange for medical aid and transport.

Fire Emergencies

In the event of a fire emergency call 911 and the following actions are recommended:

1. Activate the fire alarm. Pull Stations to activate a fire alarm have self-inscribed instructions.
2. Only properly trained individuals may use a fire extinguisher to attempt to extinguish a small, incipient stage fire (no larger than a waste paper basket). The university provides annual fire extinguisher training to designated individuals every April/May of each year.
3. If the fire is large or spreading, leave the fire area and prevent the fire's spread by closing the doors behind you.
4. Evacuate the building and await the arrival of Campus Police. Try to account for everyone that was inside the building. Do not leave the designated outside evacuation assembly area until you have been accounted for.
5. Do not re-enter the building until you are told to do so by Campus Police or a fire official.

*A fire emergency is defined as (1) an uncontrolled fire or imminent fire hazard, (2) the presence of smoke or the odor of burning, (3) the uncontrolled release of a flammable or combustible substance, or (4) a fire alarm sounding.

Chemical Exposure

1. If you spill a chemical such as paint thinners or fabric dyes on your skin:

Immediately rinse the area with water for at least 15 minutes.
Remove any soiled clothing and jewelry while you are rinsing. Discard leather belts or shoes as they cannot be decontaminated.

Check the Material Safety Data Sheet (MSDS) database on line to determine if delayed effects should be expected.

2. If you get a chemical in your eyes:

Rinse with water for at least 15 minutes, rinsing from the nose outward to avoid contaminating the unaffected eye.

Remove contact lenses while rinsing – don't wait to remove them before you rinse.

3. If you inhale a chemical or are overcome by fumes:

Leave the room and move to fresh air

Keep door of room open to vent

Do not re-enter a contaminated area

4. If you accidentally ingest a chemical:

Immediately contact the Poison Control Center at 1-800-222-1222 for instructions

Do not induce vomiting unless directed to do so by a health care provider.

Note: Power Outage

Remain calm and advise the occupants to *stay where they are* unless there is an imminent threat to one's safety (e.g. a fire/smoke condition). Immediately call Campus Police to report a power outage in the theater. While contacting campus police have another designated/trained person respond to the audio microphone in the fire alarm panel. Make an announcement thru the main fire alarm panel's public address system (which has emergency battery backup power). Notify all occupants to remain seated and calm and let them know we have experienced a power outage. Using the fire alarm's public address system notify all occupants that we have lost electrical power and with the help of the theater ushers *we will momentarily begin* a building evacuation starting with the front row guests. The theater's emergency lighting will activate upon power outage and will provide illumination of all exit pathways for the theater occupants to evacuate safely.

Always contact our campus police to report a power outage in your building. Campus Police will then provide additional assistance for the theater staff. *In addition*, depending on the time of day contact facilities at **908-737-5000** or the afterhour's facilities attendant in the boiler room at **908-737-5023** who will then contact the on-duty campus electrician.

Crowd Control

Attendance for an event can be controlled through ticket sales, so overcrowding does not become an issue. The need for security measures at events sponsored by recognized student organizations is determined by Campus Police. The number of people involved and the nature of the event are the primary determining factors. In some cases, security may be required for the use of certain buildings or areas.

Front-of-House Personnel

Note: The house manager and all front-of-house personnel must assist the audience to evacuate the building safely in case of an emergency. A fire safety and evacuation plan is incorporated into Kean's Emergency Action Plan. All employees/personnel of the Theater Department should be familiar with the plan and are required to be present for our annual and quarterly evacuation training.

The Theater Staff Management is responsible for rehearsing with all ushers/front of house personnel each theaters emergency evacuation plan. The employee staff and personnel shall be trained in the duties they are to perform under the plan. Some members of the Front-of-House staff should be trained to use fire extinguishers. The campus provides annual fire extinguisher training to designated individuals every April/May of each year.

Remember: The primary objective and most important objective is to have all patrons and staff evacuate out of the building to the safety of the designated exterior evacuation assembly area.

Pre-Performance Announcement

Source: International Fire Code, New Jersey Edition Emergency Planning and Preparedness

408.2.2 Announcements: In theaters, motion picture theaters, auditoriums and similar assembly occupancies where there are programs, an audible announcement shall be made ***not more than ten minutes prior*** to the start of each program to notify occupants of the location of the exits to be utilized in case of fire or other emergency.

Prior to each performance, the following announcement or equivalent **MUST** be made verbally:

Sample Announcement

Ladies and Gentlemen, may I have your attention, please!

In compliance with the provisions of the State of New Jersey, International Fire Code, I draw your attention to the ***exits*** to be utilized in case of fire or other emergency.

(Point to each exit in the theater, auditorium or place of assembly where the program is being held)

Thank you, ladies and gentlemen for your attention!

In addition, a similar announcement may be placed in a distributed program.

If the fire alarm activates:

An automatic voice message will annunciate throughout the building over the fire alarm's speaker system. (The house lights will automatically turn on as well) This fire alarm announcement will advise patrons to walk to the nearest exit. Should the voice message fail to activate, the House Manager must alert patrons from the front of the stage of an emergency and the need to evacuate. Ushers should lead the audience to exit doors and evacuate all patrons to the outside of the theater away from the main entrance. Campus Police will respond and together with the theater staff advise patrons to assemble at the designated outside assembly area.

When it is safe to re-enter the building, theatre staff should take charge *to re-enter first* and assist patrons with re-entry.

Exits (Means of Egress)

The means of egress is the continuous and unobstructed path of travel from any point in a place of assembly to an exit or public way (e.g., sidewalk, street, etc.). All parts of the means of egress must be available for immediate, emergency use.

- Aisles and corridors must be unobstructed and kept free of flammable or combustible materials.
- Event organizers must inspect the means of egress immediately prior to any event and remove any obstructions immediately.
- Exit doors must be unlocked.
- Care must be taken to ensure that the exit discharge is also unobstructed (e.g., not blocked by dumpsters or vehicles, no materials stored against the exit door, **all snow removed**, etc.).
- All exit signs must be clearly illuminated and unobstructed at all times.
- The width of a means of egress cannot be blocked or reduced.
- Draperies or similar decorative hangings cannot obstruct the view or the access to an exit.
- Mirrors cannot be placed near an exit in any manner that may confuse those trying to exit.
- Exits cannot be used for any other purpose other than a means of egress.
- Spaces within a stairway enclosure are not to be used for storage of any materials. If you are in an unlit area, proceed with caution to an area that has emergency lighting.
- The backlighting on your cell telephone may function as a source of light to help you navigate.
- Persons with disabilities should contact the ushers to call Campus Police at 908-737-4800 for mobility assistance.

Safety Manual Agreement

I, _____, have read, understand, and agree to comply with the rules, guidelines and procedures as outlined by this manual. I recognize that my failure to comply may result in injury to myself or others, as well as academic or professional penalties.

X _____

DATE _____

7.0 Chemical Safety

7.1 Hazard Communication Program (Right to Know)

Introduction

The Hazard Communication Program is designed to inform workers about hazardous chemicals. This is achieved by providing access to information on the physical and health hazards of chemicals, safe handling precautions, and emergency and first aid procedures. This program is also designed to and complies with the Occupational Safety and Health Administration (OSHA) Hazard Communication Standard.

Departments are required to establish Hazard Communication Programs to transmit information on the hazards of chemicals used by individuals in their department by labeling containers, ensuring material safety data sheets (MSDS) are available and providing training.

Scope and Application

Kean University complies with the Public Employees Occupational Safety and Health Program Hazard Communication Standard (PEOSH HCS), N.J.A.C. 12:100-7, which New Jersey adopted with amendments, on May 3, 2004. The University provides information about the hazardous chemicals in our workplace, their associated hazards, and the methods for controlling these hazards. In accordance with the OSHA Hazard Communication Standard, certain chemicals are exempt from the standard, including hazardous wastes, food, wood, tobacco, and potentially hazardous substances such as drugs and cosmetics brought to the University for personal use.

The following required elements of the Standard have been put into place:

- (1) A list of hazardous chemicals (via our RTK Report);
- (2) Material Safety Data Sheets (MSDS) and Hazardous Substance Fact Sheets (HSFS) for hazardous chemicals;
- (3) Labeled containers; and
- (4) A training program for employees who work with or have a potential for exposure to hazardous chemicals.

This policy is designed to ensure that employees are alerted and properly trained in the safe use of hazardous substances with which they may come in contact. This will be accomplished by compiling hazardous substance lists, maintaining and using Material Safety Data Sheets (MSDS), ensuring proper container labeling, and providing employee training.

This written program applies to all work operations on campus where employees are exposed or may be exposed to hazardous chemicals or conditions under normal working operations or during foreseeable emergency situations.

Procedural Description

Under the Hazard Communication Program, individuals who work with hazardous chemicals have the right to know:

- what chemical substances are present in the products they handle
- what health effects these chemicals are capable of causing in the event of overexposure
- what precautions are necessary to protect from exposure
- what physical hazards (e.g., fire, explosion) are possible if the product is not handled properly
- how to properly handle the product in order to avoid hazards
- personal protective equipment should be used

A copy of the University's Hazardous Communication Policy, which contains specific details with regard to the policies and procedures administered for this program, can be found on the Kean University web site at www.kean.edu/fehs.

List of Hazardous Chemicals

The list of the hazardous chemicals in this facility is prepared and available by each department that uses chemicals and a compilation list is prepared by the EHS Officer and kept in the Right to Know central file. Also available for review are the campus-wide past and current Right to Know surveys. Each department is responsible for maintaining an up-to-date list of hazardous substances present on their premises.

Material Safety Data Sheets (MSDS) and Hazardous Substance Fact Sheets (HSFS)

MSDS and HSFS provide health and safety information on the specific hazardous products or chemicals used by Kean University employees. In compliance with the PEOSH HCS, the MSDS are made readily accessible to employees during each work shift when they are in their work area.

The HSFS associated with the MSDS will be updated as needed by EHS. As a policy of Kean University, an MSDS and HSFS hard copy will be provided to the requesting employee immediately upon written request, or within 3 working days of the request if the MSDS or HSFS is not immediately available. Please go to the EHS website at www.kean.edu/ehs for request forms.

Labeling and Warning Systems

Hazardous substance containers must be labeled with the chemical name and chemical abstract services (CAS) number, the hazard warning, and measures to protect the user against exposure risks. All employees and students are expected to read labels and follow instructions and warnings. Detailed labeling requirements are specified in the University's Hazard Communication Policy which can be found on the Kean University web site at www.kean.edu/ehs for the five most predominant substances in the container, whether they are hazardous or non-hazardous.

Hazardous Non-Routine Tasks

At this time, Kean University does not have any tasks that fall under this classification. As new procedures are developed in various departments, a determination will be made of the hazards, if any, that are related to these tasks.

Training

Every employee who works with or has the potential for exposure to hazardous chemicals under normal conditions of use or in foreseeable emergencies will receive initial and refresher training under the PEOSH Hazard Communication Standard on the safe use of those hazardous chemicals. Kean's EHS is responsible for providing the training.

Individual departments will provide job-specific training on the safe use of hazardous substances in their work area. Additional training is provided whenever a new hazard is introduced into a work area. Training includes classroom instruction and an opportunity for the employee to ask questions. The individual departments may hold safety meetings to review the initial and/or additional training materials.

Contractors

Departments must inform outside contractors of the potential hazards which may be encountered during their work at the Kean University. This includes giving contractors' access to the written Hazard Communication Program, the hazardous chemical inventory, and the MSDS for these chemicals.

Similarly, the contractor is expected to inform and provide departments with a chemical inventory and MSDS for the materials that will be introduced into the work area in the course of their work at Princeton University. The contractor must also provide information regarding where chemicals will be used and stored. Contractors are responsible for the labeling of all containers on campus and supplying of all MSDS brought on campus.

Roles and Responsibilities

Department

- Maintain up-to-date inventories and make MSDS readily available.
- Assign a person responsible to coordinate the purchasing, inventory, dispensing, and forwarding of MSDS as appropriate.
- Make arrangements with the EHS Officer who will ensure that all containers shipped from University facilities are properly labeled and that the transporter is authorized.
- Keep records of training.
- Inform contractors of potential hazards in their work area.
- Ensure contractors inform department representatives of potential hazards they bring into the workplace

Supervisors

- Provide job-specific training to all their employees, including a discussion of how to safely handle hazardous substances in their work area.
- Identify any new hazardous chemical before it is introduced into the workplace and inform employees in the work area about the dangers of such hazardous substances.

- Ensure containers are properly labeled.
- Ensure workers wear personal protective equipment, when necessary, and properly handle hazardous materials.

EHS

- Provide general hazard communication training to all new employees.
- Maintain an up-to-date written hazard communications program.
- Assist in evaluating hazards and determining appropriate precautions.

Individual

- Responsible for following safety instructions on labels and MSDS and complying with safety procedures.
- Attend training.
- Maintain proper labeling of chemical containers.
- Review MSDS for hazardous chemicals before working with them.
- Use appropriate personal protective equipment, as necessary.
- Report potentially hazardous conditions to supervisors.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site

<http://www.kean.edu/ehs/>

- Hazardous Communication Policy
- MSDS Information

United States Department of Labor

Occupational Health and Safety Administration

www.osha.gov

- Occupational Safety and Health Administration's (OSHA) Hazard Communication Standard 29 CFR

7.2 Laboratory Standard/Safety Program

Introduction

In 1990, the Occupational Safety and Health Administration (OSHA) issued a regulation entitled Occupational Exposure to Hazardous Chemicals in Laboratories, otherwise known as the Laboratory Standard, to address the differences between chemical as used in laboratories versus other workplaces.

The goal of the Laboratory Standard is to ensure that laboratory workers are informed about the hazards of chemicals in their workplace and are protected from chemical exposures exceeding allowable levels (e.g., exceeding OSHA Permissible Exposure Limits). This goal is achieved by establishing safe work practices in the laboratories through the implementation of a Chemical Hygiene Plan (safety manual) and the appointment of departmental Chemical Hygiene Officers.

Scope and Application

The Laboratory Standard applies to all individuals who work with hazardous chemicals in science laboratories. Work with hazardous chemicals outside of laboratories is covered by the Hazard Communication Policy.

Procedural Description

The Laboratory Standard consists of five major elements: information and training, medical consultations and exams, hazard identification, exposure monitoring, and the Chemical Hygiene Plan.

In accordance with the Laboratory Standard, each science department has appointed a Chemical Hygiene Officer to develop and implement a departmental Chemical Hygiene Plan. The Chemical Hygiene Officer is the primary liaison for laboratory chemical safety issues between the department and the Office of Environmental Health and Safety (EHS). To determine the Chemical Hygiene Officer in a particular department, contact the respective department chair or consult the list of Chemical Hygiene Officers on the EHS web site at www.kean.edu/ehs.

Exposure Determination

OSHA has established permissible exposure limits (PELs) for hundreds of chemical substances. The PEL is the concentration in inhaled air that the average, healthy worker may be exposed to daily for a lifetime of work without significant adverse health effects. The PEL is usually expressed as an eight hour time weighted average concentration.

Laboratory workers must be protected from exposure above PELs. Exposure monitoring, through air sampling, is conducted if there is reason to believe that exposure may exceed exposure limits, or upon request. Individuals who have been monitored will receive sampling results within 15 days of receipt by EHS. Periodic monitoring will be conducted as needed.

Chemical Hygiene Plan

The purpose of the Chemical Hygiene Plan is to provide guidelines for prudent practices and procedures for the laboratory use of chemicals. The Laboratory Standard stipulates that the Chemical Hygiene Plan set forth procedures, equipment, personal protective equipment and work practices capable of protecting workers from the health hazards presented by the hazardous chemicals used in the laboratory.

Kean University has developed a Chemical Hygiene Plan (CHP). Copies of the CHP are available to laboratory workers at all times. In most departments, a copy of the CHP is available in each laboratory.

Information and Training

Laboratory workers are provided with information and training to become knowledgeable of the hazards present in their laboratory. The training is provided at the time of initial assignment to a laboratory and prior to assignments involving new exposure situations.

EHS provides general training, while the department provides specific training on particularly hazardous materials or operations in the workplace. All individuals working in a laboratory must attend Laboratory Safety Training.

Training includes at least the following: methods and observations that may be used to detect the presence or release of a hazardous chemical. This may include monitoring devices, as appropriate, and familiarity with the appearance and odor of the chemicals; the physical and health hazards of chemicals in the laboratory; and the measures that workers can take to protect themselves from these hazards, including protective equipment, appropriate work practices, and emergency procedures.

Medical Consultations and Examinations

Kean University provides medical consultation with a licensed healthcare professional for the purpose of determining what medical examinations or procedures are appropriate in cases where a significant exposure to a hazardous substance may have taken place, including:

- Whenever an individual develops signs or symptoms associated with a hazardous chemical to which he or she may have been exposed in the laboratory
- Whenever exposure monitoring reveals exposure levels routinely exceeding the OSHA action level or permissible exposure limit, as appropriate
- Whenever a spill, leak, explosion or other occurrence results in the likelihood of a laboratory worker experiencing a hazardous exposure

The laboratory worker or his/her supervisor provides the examining physician with the identity of the hazardous chemical encountered in the laboratory and the conditions under which the individual may have been exposed.

The examining physician completes a written opinion that includes the following information:

- Recommendations for further medical follow-up
- The results of the medical examination and any associated tests
- Any medical condition which may be revealed in the course of the examination that may place the individual at increased risk as a result of exposure to a hazardous chemical in the workplace

A copy of the written opinion is provided to the laboratory worker, the departmental Chemical Hygiene Officer and EHS. Further details on the policy and procedures may be found in the departmental Chemical Hygiene Plan.

Hazard Identification

Chemical containers must be labeled with the identity of the product, the chemical constituents and their Chemical Abstracts Service (CAS) numbers, and any appropriate hazard warnings. Labels must not be removed or defaced.

Material Safety Data Sheets (MSDS) received by the laboratory must be maintained and be available to laboratory workers during work hours. The location of any available central departmental location for MSDS may be found in the Chemical Hygiene Plan. In addition to the MSDS received with chemical shipments, MSDS are available through the EHS Officer and the EHS web site at www.kean.edu/ehs.

Recordkeeping

Departments must keep records of attendance at EHS general training and departmental training, exposure monitoring, medical consultation, and examinations. Such records may be transferred to an individual's physician or made available to the laboratory worker upon request.

Roles and Responsibilities

Department

- Appoint a Chemical Hygiene Officer.
- Maintain records of training, exposure monitoring and medical examinations.
- Provide chemical and procedure-specific training.

Chemical Hygiene Officer

- Develop and implement a departmental Chemical Hygiene Plan.
- Review and update the Chemical Hygiene Plan at least annually.
- Investigate accidents and chemical exposures.

Supervisors

- Ensure laboratory workers attend training.
- Ensure laboratory workers use personal protective equipment, as needed.

EHS

- Conduct exposure monitoring, as needed.
- Provide general training.
- Audit departmental program periodically.

Individual

- Attend training.
- Review the departmental Chemical Hygiene Plan.
- Follow procedures and laboratory practices outlined in the Chemical Hygiene Plan.
- Use engineering controls and personal protective equipment, as appropriate.
- Report all accidents and potential chemical exposures.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site

<http://www.kean.edu/ehs/>

- Specialty Lab Safety Guidance Publications
- Environmental Services

United States Department of Labor - Occupational Health and Safety Administration

www.osha.gov

- OSHA Laboratory Standard, 29 CFR 1910.1450

7.3 Chemical Waste Handling/Disposal

Introduction

Kean University generates small quantities of a broad spectrum of waste classified as hazardous under state and Federal law. This material is generated as a result of research and teaching activities in the various academic departments (e.g., Biology, Chemistry, Fine Arts, etc.) as well as from maintenance and engineering operations.

The management of chemical waste is regulated by several governmental agencies including the United States Environmental Protection Agency, the United States Department of Transportation, and the New Jersey Department of Environmental Protection (NJDEP).

Scope and Application

The procedure intends to protect individuals and the environment from exposure to hazards during the handling of chemical and hazardous wastes. Teaching and research assistants, and ultimately the designated Scientist-in-Charge of the laboratory, are responsible for compliance with this operating procedure.

This policy incorporates requirements set forth in the OSHA standards for handling of hazardous waste (29 CFR 1910.120), Federal RCRA requirements (40 CFR 260-262), and state regulations set forth by the NJDEP in N.J.A.C. 7:26G. This policy applies to all faculty, researchers, staff and students conducting laboratory operations.

Kean is required to comply with these regulations and maintain a safe learning environment for its students, faculty and staff. Compliance with these regulations in the laboratories is the responsibility of the faculty member in charge of that laboratory, who reports directly to the Chemical Hygiene Officer. Failure to comply with and enforce the departmental waste policies could have serious consequences, including loss of privileges, and/or civil and criminal prosecution. Failure to comply may also result in civil, criminal, or administrative penalties for the University.

Procedural Description

The following chemical waste handling procedures shall be followed in all laboratories:

- 1. NO CHEMICAL OR HAZARDOUS WASTE IS TO BE DISPOSED OF DOWN A DRAIN!**

In addition, the following substances are explicitly prohibited from disposal to the sanitary sewer (RCRA Subpart F):

- a. Metals: arsenic, cadmium, chromium, copper, lead, mercury, nickel, silver, & zinc.
- b. Materials with pH <2 or >12.5, volatile organic compounds, cyanide, sulfate, sulfide, oil, or grease.
- c. Also prohibited are solids or viscous substances in quantities or of such sizes capable of causing obstruction to the flow in the sewers.

2. All waste shall be poured into bottles or containers that are an appropriate size, in good condition, sturdy, leak-proof and compatible with the waste material. Appropriate Personal Protective Equipment compatible with the material being handled must be worn at all times to minimize potential exposure to the waste. This may include, but not be limited to, rubber/butyl gloves, protective goggles, apron, and respirator.
3. The bottle or container shall have a tight-fitting cap and shall be sealed at all times, except when additional waste is being added.
4. All old or extraneous labels must be removed or defaced.
5. All hazardous waste containers shall be clearly identified with proper labeling (RCRA Subpart I). Labels must include:
 - a. the words "Hazardous Waste"
 - b. a list of all chemical components and their relative quantities. Relative quantities of all chemicals should sum to a total of 100%. (If a waste log is used with the waste container, the relative quantities may be filled in when the container is full. The container label should reference the associated waste log number.)
 - c. the primary hazards presented by the waste substance (e.g., flammable, corrosive)
 - d. the person responsible for the waste, their location and phone number.
6. EHS **shall** be contacted for assistance in handling and disposal of potentially explosive materials such as picric acid, silanes, nitro compounds, and ethers.
7. Certain hazardous chemical wastes are not compatible with other chemicals and may cause a severe reaction, explosion, or release of extremely toxic products. The original chemical's label and MSDS will contain information on incompatibilities. In general, hazardous waste containers should be segregated by hazard class (i.e. Ignitable/Flammable, Explosive, Toxic, Corrosive, Concentrated Acid, Concentrated Base, Reactive, Oxidizer, or Reducer) (40 CFR 264.17).
8. Compatible substances (including compatible solvents) may be mixed or stored together provided the relative quantities of the different substances are listed on the waste label. (for example, "50% Toluene & 50% Isopropanol")
9. Where a number of additions shall be made to a waste container, a waste log is to be used to record information. The waste log must reference the waste container number and for each addition, the waste log should list:
 - a. the name of the chemical and the CAS number that is being added to the container (written in English – no chemical or empirical formulae)
 - b. the quantity and concentration of each chemical that is added
 - c. the primary hazards presented by the waste substance
 - d. the person responsible for the waste, their location and phone number

The information on the waste log must be summarized on the waste container label when the container is full. For further information and an example of a container waste log see SOP KU018, "**Laboratory Chemical Waste Accumulation**".

Detailed information with regard to laboratory chemical waste handling, hazardous waste labeling, and laboratory hazardous waste accumulation can be found in the Standard Operating Procedures section of the Environmental Management System (EMS) Manual on the FEHS web page at www.kean.edu/ehs

Roles and Responsibilities

Department

- Identify all departmental activities that could result in the generation of hazardous waste.
- Ensure that all individual generators of hazardous waste within the department are aware of University policies and procedures for proper disposal of hazardous wastes.
- Distribute information on hazardous waste disposal (including pickup schedules) to all applicable parties.

Supervisors

- Ensure that all individuals involved in activities that generate waste are aware of and follow the waste disposal policies and procedures.
- Periodically review current practices to minimize the quantities of hazardous waste generated.
- Ensure that all chemical wastes are disposed of properly at the conclusion of a project and that wastes are properly identified for disposal before the responsible individual leaves the University.

EHS

- Administer hazardous waste disposal services contracts.
- Provide technical advice on proper waste classification, storage and disposal practices.
- Maintain disposal records and generate state-required reports of hazardous waste activity.
- Provide annual Chemical Waste Operations training for those individuals charged with managing waste storage areas.

Individual

- Follow established practices for disposal of chemical wastes.
- Properly dispose of all wastes at the conclusion of a project and before leaving the University.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site

<http://www.kean.edu/ehs/>

New Jersey Administrative Code (NJAC 7:26-7.1 et seq.) Hazardous Waste, New Jersey Department of Environmental Protection

United States Department of Labor
Occupational Health and Safety Administration

www.osha.gov

- OSHA Standards for Handling of Hazardous Waste, 29 CFR 1910.120

United States Environmental Protection Agency
www.epa.gov

- RCRA Requirements, 40 CFR 260-262

7 **Biological Safety**

8.1 Bloodborne Pathogens

Introduction

Blood and certain other body fluids may contain pathogenic agents, that is, microorganisms that cause disease. Among those pathogens that may be present are hepatitis B and C viruses (HBV or HCV) or human immunodeficiency virus (HIV) which causes AIDS. If an individual has blood exposure to broken or injured skin, mucous membranes of the eyes, nose, mouth, or by needle stick or other injection, there is the potential of infection with any possible pathogen that might be present.

To minimize the risk of infection, information and training must be provided to those who will likely be exposed; hepatitis B vaccination is offered; protective measures in the work environment are instituted; and exposures are reported to ensure that proper medical evaluation and treatment can be provided. It is especially important that employees with potential exposure understand and follow the principle of "Universal Precautions" as required in the Occupational Safety and Health Administration standard. "Universal Precautions" is the infection control approach in which all blood and body fluids are treated as if they are infected and the necessary precautions are taken.

Scope and Application

Federal OSHA standards require a Bloodborne Pathogens Program for employees with job responsibilities which "reasonably expose" them to blood and certain other body fluids, unfixed human tissue or cell cultures. This program is intended to prevent infection with bloodborne pathogens. Under University policy, the Bloodborne Pathogens Program applies to all individuals, including students, who may be exposed through University programs and activities.

Individuals with responsibilities for medical support and emergency response are examples of those who have potential exposure and are included in the program. Research activities involving human blood or tissues places laboratory personnel at risk of exposure and requires those researchers to be in the program.

However, "good Samaritan" actions, such as an employee or student who provides assistance to another individual in the case of a nose bleed or other injury, are not covered under the Bloodborne Pathogens Program.

Procedural Application

Exposure Control Plan

Each department develops a written Exposure Control Plan indicating those job classifications and the tasks and procedures which involve potential exposure. The plan also includes an indication of the required engineering and work practice controls,

personal protective equipment, housekeeping, labeling, training, and medical surveillance functions that will be instituted.

Methods of Exposure Control

A variety of controls are in place to effectively eliminate or minimize the risks of infection, including universal precautions, engineering controls and work practices, personal protective equipment, sanitary conditions, waste regulation, laundry procedures, and labels and signs. These controls are detailed in both the written plans and employee training.

Training

Training must be provided initially at the time workers are assigned tasks involving exposure and annually thereafter. EHS conducts the training program on campus by coordinating with an outside contractor.

It is the responsibility of the supervisor to ensure that workers complete initial and annual training.

Hepatitis B Vaccination

Those who are potentially exposed to bloodborne pathogens are offered the hepatitis B vaccination at no cost to the individual. Although this vaccination is strongly recommended, an individual can choose not to accept it and sign a declination statement.

Bloodborne Pathogens Incidents

Minor spills, accidents, or incidents involving blood or other potentially infectious material are routinely cleaned up by trained custodial staff. Large or complicated incidents are reported immediately to the Campus Police at extension 7-4800. Arrangements will be made by EHS for prompt cleanup. Any exposure to employees or students is immediately reported to EHS for appropriate medical attention.

Recordkeeping

EHS maintains training records for three years from the date of the training. Training records will include the dates and contents of the training sessions, and an attendance sheet that also includes job titles.

Roles and Responsibilities

Department

- Identify individuals at risk of exposure and notify EHS.
- Comply with the provisions of the Kean University Exposure Control Plan
- Ensure that employees complete the required initial and annual training.
- Provide personal protective equipment and engineering controls to eliminate or reduce exposure.

Supervisors

- Ensure that those exposed complete the required training.
- Ensure that those exposed have available and use the appropriate personal protective equipment and that "Universal Precautions" are followed.

EHS

- Provides instruction and training on safe work practices, conducts routine inspections of work areas, investigates accidents, and recommends preventive/corrective actions.
- Assists departments to comply with the OSHA Bloodborne Pathogen Standard.

Individuals

- Complete the provided training and understand the risk associated with the job.
- Consider seriously the offer of hepatitis B vaccination.
- Follow the appropriate practices and procedures established for the work environment to limit or prevent exposures, and adopt the principle of "Universal Precautions".
- Report any exposures to supervisory personnel and undertake the necessary medical review and treatment.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site
<http://www.kean.edu/ehs/>

United States Department of Labor - Occupational Health and Safety Administration
www.osha.gov

- OSHA Blood borne Pathogens Standard, 29 CFR Part 1910.1030

7.2 Biological Waste Handling and Disposal

Introduction

Some wastes associated with biological materials must be disposed of in special ways because they may have been contaminated with infectious organisms or agents. These potentially infectious or biohazardous materials are defined by NJ regulations as Regulated Medical Waste. These wastes include, but are not limited to, the following:

- all sharps, e.g. glass implements, needles, syringes, blades, etc. coming from facilities using infectious materials
- biologically-cultured stocks and plates, human blood or tissues
- certain wastes from patient care
- In addition, wastes generated from animal care facilities are also handled separately from the general waste stream.

Procedures that meet regulatory requirements and prevent any unintended exposure have been established for handling and disposal of these types of waste.

Scope and Application

The procedures described in this section address all biologically-contaminated wastes generated on campus that are handled separately from the general waste stream. This policy applies to all faculty, staff and students working in the Health Services Department, Athletics Department, Zoology labs, and the animal facility.

This policy describes the proper biological waste packaging, labeling and handling procedures for Health Services, Campus Police Officers, custodians, plumbers, and Athletic Department employees. The policy incorporates the Federal standard of the Occupational Safety and Health Administration (OSHA) "Exposure to Bloodborne Pathogens" (29 CFR 1910.1030), the Federal standard for the Interstate Transport of Etiologic Agents (42 CFR 72.6), and the Comprehensive Regulated Medical Waste Management Act (N.J.A.C. 7:26-3).

The procedure intends to protect individuals and the environment from exposure to hazards. The Directors of Health Services, Campus Police, the Athletics Center, Maintenance Personnel, and ultimately Facilities and Campus Planning are responsible for compliance with this operating procedure.

Procedural Description

Biological waste is any waste that is potentially bio-hazardous, infectious or pathological. If regulated biological waste is mixed with non-hazardous solid wastes the waste stream shall be managed as biological waste. If regulated biological waste is mixed with hazardous solid wastes the waste stream shall be managed as hazardous waste.

Packaging Biological Waste for Disposal

- Where possible, biological waste should be decontaminated prior to disposal. Methods of decontamination include autoclaving and bleaching.
- All biological waste collected for disposal will be placed in a securely closed, watertight container (primary container (test tube, vial, etc.)) which shall be enclosed in a second, durable watertight container (secondary container) that is double-lined with two regulation biohazard plastic bags. Note: Biological sharps will be placed in an OSHA-approved sharps container prior to being placed in with the biological waste.
- The space at the top, bottom, and sides between the primary and secondary containers shall contain sufficient non-particulate absorbent material (e.g. paper towel) to absorb the entire contents of the primary waste container(s) in case of breakage or leakage.
- The plastic bags must be of sufficient strength to prevent ripping or tearing (3-millimeter equivalent) and must be labeled in the following fashion:
 - The color of material on which the label is printed must be white, symbol red, and the printing in red or white as illustrated.
 - The label must be a rectangle measuring 51 millimeters (mm) [2 inches] by 10.25 mm (4 inches) long.
 - The red symbol measuring 38 mm (1 1/2 inches) in diameter must be centered in a white square measuring 51 mm (2 inches) on each side.

The lettering on each label shall be written as follows:

Etiologic Agents
Biomedical Material
In case of damage or leakage notify CDC, Atlanta, Georgia
(404) 633-5313

- If dry ice is used as a refrigerant, it must be placed outside the secondary container and within the plastic bags. If dry ice is used between the secondary container and the outer shipping container, the shock absorbent material shall be placed so that the secondary container does not become loose inside the outer shipping container as the dry ice sublimates.
- Facilities will provide all boxes, bags, tape and labels to be used for packaging of biological waste.

When the biological waste container is full, or the maximum weight limit of the container is reached, the following procedures will be followed:

- Ensure the packaged waste is within the weight limits indicated on the container
- Seal or tie each bag
- Label the outer bag with the University's identification labels provided by Facilities and Campus Planning
- Securely close each container with 3 strips of tape on top, bottom, and side seams
- Immediately notify Facilities that a container is ready for pick-up.
- Under no circumstances are biological wastes to be mixed with normal university non-hazardous refuse. In the unlikely event that laboratory waste is inadvertently mixed with university garbage, segregate the waste container to the best of your ability, and delineate the entire container as biological waste. Notify Facilities immediately.
- Label and date the outer container upon pickup.
- When possible, animal waste should remain frozen until a pick-up has been scheduled with F&CP.

FCP is responsible for the retrieval, transport, and disposal of all biomedical wastes from laboratories. A container that is leaking, improperly packaged, improperly labeled or containing loose sharps will not be picked up.

Roles and Responsibilities

Department

- Provide puncture proof needle/syringe disposal containers as needed.

Laboratory Manager/Supervisor

- Ensure that all individuals generating waste are aware of and follow the prescribed waste disposal procedures.
- Ensure that filled Medical Waste boxes and inserted containers are properly sealed and labeled.

Facilities

- Provide medical waste boxes upon request.

- Pick up properly sealed and labeled boxes of medical waste and transport boxes to central storage for pick-up by medical waste vendor.
- Complete the manifest procedure with the contractor and maintain records mandated by NJ Regulated Medical Waste Rules.

EHS

- Provide consultation and advice on medical waste handling and issues of regulatory compliance.

Individual

- Handle waste categories as described above.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site
<http://www.kean.edu/ehs/>

United States Department of Labor - Occupational Health and Safety Administration
www.osha.gov

- OSHA Bloodborne Pathogens Standard, 29 CFR Part 2910.1030

United States Code of Federal Regulations

- Interstate Shipment of Etiologic Agents, 42 CFR 72

New Jersey Administrative Code, NJAC 7A:26-3A

- Regulated Medical Waste Rule

8.3 Biological Sharps Handling

Introduction

Sharp materials (sharps) that have been used in animal or human patient care, treatment or research, present the double hazard of inflicting injury and inducing disease. Since sharps can easily cut or puncture skin or plastic bags, they need to be disposed into puncture proof containers. OSHA standards specify handling procedures for sharp materials to protect against exposure to physical and biological hazards, while 42 CFR 72.6 details packaging and storage requirements for sharp materials.

Scope and Application

This policy defines the proper handling procedures for sharp materials used in University laboratories, and may also apply to Health Services, Campus Police, Maintenance, and Athletic Department employees. The policy incorporates regulations set forth in the "Interstate Shipment of Etiologic Agents" standard (42 CFR 72.6), the OSHA standards for "Exposure to Bloodborne Pathogens" (29 CFR 1910.1030), and University requirements.

This policy applies to all Health Services employees, Campus Police, Facilities and Campus Planning personnel, Maintenance, Athletics Department employees, and University laboratories, such as zoology laboratory, research assistants, staff, and

students. The procedure intends to protect individuals and the environment from exposure to hazards. The Health Services, Campus Police, Laboratories, Athletics Department, Maintenance Personnel, and ultimately the Chemical Hygiene Officer are responsible for compliance with this procedure.

Procedural Description

Definition of Sharps

The regulatory definition of sharps includes all discarded needles, syringes (with or without the attached needle), blades, scalpels, vials, culture dishes (regardless of the presence of infectious agents), slides and cover slips, and broken glass. All sharps used in patient care, treatment or research, are considered infectious waste because of the possibility of undiagnosed blood borne diseases (i.e., Hepatitis or AIDS). In addition, unused discarded hypodermic needles, suture needles, syringes and scalpel blades are always considered biological waste.

Disposal of Sharps

Sharps should be segregated by contamination type (i.e. biohazardous, hazardous, and radioactive). If unsure of the contamination type, contact Facilities and Campus Planning for assistance.

Biohazardous Sharps only:

- Place sharps in a red OSHA-approved sharps container. These containers are available from the Chemical Hygiene Officer or Facilities and Campus Planning.
- Place a biohazard label and Kean University's ID label on the sharps container. Labels are available from Facilities and Campus Planning.
- Place the sharps container in the lined biological waste container.

Hazardous and Biohazardous Sharps:

- Place sharps in red OSHA-approved sharps container. These containers are available from the Chemical Hygiene Officer or Facilities and Campus Planning.
- Place a biohazard label and Kean University's Medical Waste Generator ID number on the sharps container. Labels are provided by the Chemical Hygiene Officer or Facilities and Campus Planning.
- Place a "Hazardous Waste" label on the sharps container next to the biohazard and Medical Waste Generator ID labels.
- Consult with Facilities and Campus Planning for disposal procedures.

Radioactive or Mixed Radioactive Sharps (i.e. radioactive and hazardous/biohazardous):

- Kean University has phased-out its use of radiological materials in research.

Non-biological, non-hazardous broken laboratory glassware (i.e. broken glassware, such as bottles, flasks, pipettes, and vials that does not meet the criteria for hazardous, biological, or radioactive waste):

- Place in a box and securely seal the box.

- Label the box "broken glassware".
- Place the box in the regular trash.

LABORATORY GLASSWARE MUST NEVER BE DISCARDED IN THE GLASS RECYCLING BINS

Roles and Responsibilities

Department

- Provide puncture proof needle/syringe disposal containers as needed.

Laboratory Manager/Supervisor

- Ensure that all individuals generating waste are aware of and follow the prescribed waste disposal procedures.
- Ensure that filled Medical Waste boxes and inserted containers are properly sealed and labeled.

Facilities

- Provide medical waste boxes upon request.
- Pick up properly sealed and labeled boxes of medical waste and transport boxes to central storage for pick-up by medical waste vendor.
- Complete the manifest procedure with the contractor and maintain records mandated by NJ Regulated Medical Waste Rules.

EHS

- Provide consultation and advice on medical waste handling and issues of regulatory compliance.

Individual

- Handle waste categories as described above.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site
<http://www.kean.edu/ehs/>

United States Department of Labor - Occupational Health and Safety Administration
www.osha.gov

- OSHA Bloodborne Pathogens Standard, 29 CFR Part 2910.1030

United States Code of Federal Regulations
<http://www.gpoaccess.gov/uscode/index.html>

- Interstate Shipment of Etiologic Agents, 42 CFR 72

8 Radiation Safety

9.1 Agreement State

New Jersey is now designated as an **Agreement State**: The Nuclear Regulatory Commission completed an agreement with New Jersey, under which the state assumes NRC's regulatory authority over certain radioactive materials. New Jersey became the 37th NRC Agreement State, **effective Sept. 30, 2009**, under the the [Atomic Energy Act of 1954, Section 274](#) as amended.

Under the agreement, the NRC transferred to New Jersey the portions of the responsibility for licensing, rulemaking, inspection and enforcement activities for: (1) radioactive materials produced as byproducts from the production or utilization of special nuclear material (SNM –enriched uranium or plutonium); (2) naturally occurring or accelerator-produced byproduct material (NARM); (3) source material (uranium and thorium); (4) SNM in quantities not sufficient to support a nuclear chain reaction; and (5) the regulation of the land disposal of source, byproduct, and SNM received from other persons.

The NRC transferred an estimated 500 licenses for radioactive material to New Jersey's jurisdiction. New Jersey now retains regulatory authority over approximately 500 NARM licensees, including 300 who also hold NRC licenses. These licensees had their NRC and New Jersey licenses combined into a single state license. In total, New Jersey has jurisdiction over approximately 700 licenses.

The NRC will retain jurisdiction over commercial nuclear power plants, fuel cycle facilities and federal agencies using certain nuclear material in the state. In addition, the NRC will retain authority for: (1) the review, evaluation and approval of sealed radioactive materials and devices containing certain nuclear materials; and (2) the regulation of the tailings and other wastes from uranium milling within New Jersey.

The NRC also coordinates with Agreement States the reporting of event information and responses to allegations reported to NRC involving Agreement States.

New Jersey Radiation Protection Rules & Regulations may be found in the [New Jersey Administrative Code Title 7 Chapter 28](#) / [New Jersey Statutes, the Radiation Protection Act](#) . Web site is <http://www.state.nj.us/dep/rpp/njrules.htm>

Important to Note:

Kean University terminated its Radioactive Materials License with the State of New Jersey in July, 2011. The implications of the *termination* is clearly that all research, teaching laboratory experiences involving radioactive materials under the license *can no longer continue*. The guidelines in this document shall be retained for reference only in the event the Radioactive Materials License is reapplied for. The use of C-251, Radiation Laboratory Room for handling and working with radioactive materials, *is no longer viable*. The room has been thoroughly surveyed and, where appropriate and necessary, decontaminated. The room now serves as an instrumentation laboratory for the Chemistry-Physics Department.

9.2 Introduction

Radioactive materials are used primarily within science and engineering departments but may also be found in devices such as smoke detectors, static eliminators and moisture density gauges used in other departments.

Radioactive materials can be in the form of open sources or sealed sources. An open source of radioactive material is normally used as a tracer in experiments and has the potential for spillage and release if not properly contained. A sealed source is in a form that is permanently bonded or fixed in a capsule or matrix designed to prevent release of the radioactive material.

Scope and Application

This policy provides for the proper handling, unloading, and storage of radioactive materials in accordance with Federal requirements under the Atomic Energy Act (10 CFR 30) and state regulations on radioactive materials (N.J.A.C. 7:28). Failure to comply may result in civil, criminal, or administrative penalties for Kean.

This policy applies to all Facilities & Campus Planning staff, warehouse personnel, faculty, laboratory/research assistants, and students who use and handle radioactive materials. This policy applies to any radioactive material, as defined by NJAC 7:28.

Procedural Description

Any professor, laboratory/research assistant, warehouse personnel, or Facilities & Campus Planning staff must notify the Radiation Safety Officer (RSO), when purchasing a new radioactive material. The notification should indicate the name of the material, amount, physical phase (solid, liquid, and gas), storage temperature, storage medium, type and effects of radiation, if exposed. Additionally, it should indicate where the material is stored, and what other materials can be stored with it. The designated RSO shall approve the material before submitting it to Facilities and Campus Planning. Facilities and Campus Planning shall develop a database of all radioactive materials purchased, including date of purchase, storage locations, storage containers, physical state/phase of each material, storage temperatures, materials they are stored with, associated hazards of each material, and inventory procedures.

No person shall handle radioactive materials unless he or she is an authorized user. The RSO is responsible for training personnel to become authorized users (AU) whether they are students, faculty or research assistants. Training should include the following subjects:

- Radiation Protection Principles
- Characteristics of Ionizing Radiation
- Units of Radiation Dose and Quantities
- Radiation Detection Instrumentation
- Biological Hazards of Exposure to Radiation (appropriate to the types and forms of byproduct material to be used)
- Hands-on Use of Radioactive Materials.

The RSO and Facilities and Campus Planning shall be responsible for inquiring about each radioactive material, and inspecting potential and current storage locations, as well as people who can be potentially exposed to radioactive material. Facilities and

Campus Planning and the RSO shall also request MSDS' from vendors in order to become familiar with the material(s) in question. If no MSDS' are available, and the chemical is unfamiliar to the above-referenced applicable parties, work shall not commence, and/or materials or substances shall not be used until they become available. Every MSDS sheet shall dictate the storage of each material, potential exposure hazards, compatibility with other materials and the effects of long-term storage.

Provisions shall be made for delivery and temporary storage of radioactive materials after normal business hours, weekends, and holiday/vacation periods. MSDS' must be made available 24 hours per day, 7 days per week, in compliance with NRC and OSHA standards. The purpose is to provide information to medical services personnel, emergency responders, transportation officials, etc. See the Kean University Hazard Communication Program or Chemical Hygiene plan for more information. Storerooms for radioactive materials are not to be used as dispensing areas, preparation or repackaging locations. All storerooms should have local exhaust as appropriate.

Radioactive material containers shall be properly labeled with the following information:

- NRC Symbol indicating "Radioactive Material"
- Personal Protective Equipment (PPE)
- physical phase/state of the material
- the name of the material, ingredients, total quantity
- hazards associated with the material
- handling procedures
- date of purchase

If the vendor does not provide a label identifying these properties, then the MSDS sheet must be consulted for labeling purposes.

Storage of radioactive materials in fume hood work areas is not permitted; fume hoods are to be used for specific purposes only, not for indefinite storage. PPE should be worn whenever handling radioactive chemicals. Consult the MSDS for the proper PPE and don the appropriate gear as stated. PPE will be provided by the department supervisors.

At the end of each semester, including the summer session, Facilities and Campus Planning and the RSO shall do an inventory of radioactive materials currently stored to determine the amount of hazardous materials that has been used and what type or amount remains. This inventory should be submitted to the appropriate member of the EMS Management Committee, or functional department head.

Roles and Responsibilities

RSO and Facilities & Campus Planning

- Ensure that new faculty planning to use radioactive material contact the RSO for initiation of an authorization application.

- Ensure that support staff receive appropriate training, including receiving room and building maintenance staff.
- Plan for waste storage space.

Authorized User

- Assure employees attend all required training and keep records of attendance.
- Bear responsibility for radiation safety, enforcement of University, state, and Federal regulations.
- Establish appropriate radiation emergency procedures.
- Submit required reports in a timely manner.

Individual

- Be familiar with conditions of the Authorized User's Authorization.
- Be familiar with radiation emergency procedures.
- Attend all required radiation safety training.

EHS

- Perform routine periodic and special contamination surveys.
- Contract with radioactive waste disposal vendor and coordinate all shipments.
- Monitor and review radiation dose reports and investigate unusual radiation exposures.
- Audit department program periodically.

Key References and Resources

Kean University Fire and Environmental Health and Safety web site
<http://www.kean.edu/ehs/>

United States Nuclear Regulatory Commission
<http://www.nrc.gov/reading-rm/doc-collections/cfr/>

- Title 10, Code of Federal Regulations

New Jersey Department of Environmental Protection
<http://www.state.nj.us/dep/rpp/njrules.htm>

- Administrative Code, Title 7, Chapter 28

9.3 Radioactive Policies and Procedures

Introduction

It is the University's policy to encourage the use of radiation where appropriate. To this end the radiation safety program has been designed to relieve the individual radiation worker of the time consuming task of obtaining individual federal licenses. The program also provides the radiation worker with most of the services necessary for his/her compliance with state and federal safety standards.

Concurrent with its policy of encouraging the use of radiation, the University insists that there be no unwarranted radiation exposure; thus due regard must always be given to the safety and welfare of the radiation worker and the general public as well

as to the protection of University property and liability. The University's policy places the ultimate responsibility for radiation safety on the principal radiation user (authoree). These individuals can most effectively satisfy their responsibility by adhering to this guide, and by requesting assistance from the Radiation Safety Officer when there are questions or problems.

Scope and Application

This section applies to all persons using radioactive material in any form.

Procedural Description

Receipt, Transfer and Disposal of Radionuclide

The Radiation Safety Officer must be informed in writing of all intended receipts of radionuclide (regardless of source and be provided with a copy of the purchase request. The purchase order may be subject to disapproval should the amount ordered exceed current permitted inventory stocks. The Nuclear Regulatory Commission (NRC) license number must be typed beneath the description of the radionuclide being ordered. The authoree must inform in writing the Radiation Safety Officer of each receipt of radionuclide shipment.

Subsequent to the receipt of radionuclide the authoree must inform in writing the Radiation Safety Officer of intent to:

- a. Transfer radionuclide to other authorees either within Kean University or outside.
- b. Ship radionuclide from Kean University. Written approval by the Radiation Safety Officer is required for each transfer outside of Kean University. This must be done not only for reasons of safety but also for compliance with federal and state regulations.
- c. All radionuclide received are immediately checked for contamination and their receipt recorded (for legal purposes). The authoree is notified when a radioisotope is received, and delivery is made on the day of receipt, or in accordance with the authoree's instructions.

All radioactive waste be disposed of according to the procedures established in this Guide

Radiation Surveys

The Radiation Safety Officer conducts routine radiation and contamination surveys of all laboratories. The user must supplement these routine surveys as follows:

RADIATION SURVEYS ARE TO BE MADE AFTER EACH RUN OR AT THE END OF EACH DAY RADIONUCLIDES ARE USED IN ORDER TO DETERMINE THE EXTENT OF RADIOACTIVE CONTAMINATION AND TO ASCERTAIN THAT ALL WASTE AND STOCK MATERIAL HAVE BEEN PROPERLY DISPOSED OF OR STORED

When material is known to have been spilled or become airborne, wipe test surveys of the affected area should be made. Such tests can be made with filter paper or

squares of any absorbent-paper, and the wipes counted with an appropriate counting instrument. The Radiation Safety Officer should be called if the authoree has reason to believe his work has resulted in gross contamination or constitutes an emergency situation.

Storage of Radionuclide

Radionuclide must be stored to permit access only by the authoree and those whom he designates. Each area and room where radionuclide are stored must be posted with a "Radioactive Materials" sign. Radiation levels around storage areas should be monitored periodically. If radiation doses exceed five millirem per hour in an occupational area, the area must be posted with signs provided by the Radiation Safety Officer. Procedures and schedules for monitoring will be secured from the Radiation Safety Officer. The monitoring schedules must be complied with and the results must be recorded.

Refrigerators used for radionuclide storage must not be used to store food or ingestibles.

Radionuclide which could become airborne must be stored in a ventilated hood. The control switch for the hood ventilation should be secured in the "ON" position.

All radionuclide storage containers must bear the radiation symbol and be labeled with the type of radionuclide, its specific activity and the date the activity was recorded.

Records

Each authoree is required to maintain in a bound book a record of receipt, use and disposal of each and all radionuclide in his possession.

The log should also be used to record the date and results of radiation and contamination surveys, even when the results are negative. This log is subject to inspection by the Radiation Safety Officer, the Nuclear Regulatory Commission, and the State of New Jersey. Other records required by federal and state law are kept in the **central file in room C-251**.

Restriction of Radionuclide Areas

Access to areas where radionuclide are stored and used must be restricted to those persons cognizant of the associated hazards. This is a federal and state regulation. A key is held by RSO. Keys may be issued on a temporary basis only upon RSO approval.

Please note: Currently there is no room or area designated or approved.

Radioactive Waste

Radioactive waste must be disposed of according to the procedures established by this Guide. No waste is to be washed down the drains, incinerated or otherwise disposed of without prior clearance by the RSO.

Procedures for disposal of Radioactive Wastes:

Waste must be identified for type of radionuclide, activity, date of disposal, and must be stored in approved containers as follows:

- a. Dry waste in containers lined with plastic bags. The Radiation Safety Officer will provide containers and plastic bags.
- b. Liquid waste in metal or plastic containers. (Never in glass except when specifically approved by the Radiation Safety Officer).
- c. Animal tissue should be frozen in plastic bases or stored in plastic or metal containers with sufficient preservative to retard decay and minimize odor. Animal tissue is never to be stored in dry waste containers.
- d. Waste posing special corrosive, toxic or explosive problems should be stored only after approval of the Radiation Safety Officer. Liquid waste is normally combined and stored in waste containers provided by the Radiation Safety Officer. The containers are then held until collected by the contractor; thus if some waste would present special problems when combined with other liquids, the Radiation Safety Officer should be so advised beforehand.

Each waste container must bear a radioactive materials sign. A card is also provided by the Radiation Safety Officer (which should be taped on the container); It must be marked each time waste is put into the container with the following information:

- (1).The identity by radionuclide and activity of each separate waste entry. (It is realized that an educated estimate of radioactivity is the best that can be expected in most cases.
- (2) The date of each waste entry.
- (3).The name of the authoree under which each radionuclide is used. The card is picked up with the waste.

Information from this card is used to record the total amount of radioactive waste collected and is required by federal and state regulations.

NON-RADIOACTIVE WASTE SHOULD NOT BE DISPOSED OF IN RADIOACTIVE WASTE CONTAINERS

Glassware

Radioactively contaminated glassware shall be rinsed and placed in designated locations prior to washing. Never allow radioactive solution to dry on glass surfaces. Thorough washing and treatment with cleaning solution or detergent in a sonic bath or with 6M HCl should be done at the same location.

Glassware used in radioactive procedures should not be returned to the general departmental glassware pool.

Emergency Procedures

A radiation emergency occurs when a set of circumstances results in hazardous radiation levels, hazardous concentrations of airborne radionuclide, or contamination of personnel or University property. Examples of radiation emergencies and actions to be taken are:

- a. Personnel contamination:
 - 1) Remove contaminated clothing.
 - 2) Wash contaminated skin with mild soap and water. Do not use abrasives.
 - 3) Contact one of the following in the order listed:
 - (a) Radiation Safety Officer
 - (b) University Health Office
 - (c) University Campus Police
- b. Spill of radionuclide where the radionuclide do not become airborne:
 - 1) Wipe up with absorbent paper with a blotting action so as not to spread contamination.
 - 2) Dispose of contaminated paper in radioactive waste container.
 - 3) Contact the Radiation Safety Officer
- c. Volatilization of liquid or dispersal of solid radionuclide outside a ventilated enclosure:
 - 1) If possible, keep contamination localized by closing doors and restricting access to area.
 - 2) Leave the area.
 - 3) Call the Radiation Safety Officer.
- d. Fire in radionuclide area:
 - 1) Treat fire in usual manner. However, depending on the nature of fire, e.g. chemical or electrical, discretion of authoree should be exercised. If appropriate call Campus Police and the Radiation Safety Officer.

ALWAYS USE COMMON SENSE IN HANDLING RADIATION EMERGENCIES AND CALL THE RADIATION SAFETY OFFICER AS SOON AS PRACTICAL. DO NOT TRACK OR OTHERWISE PERMIT RADIONUCLIDES TO BE SPREAD INTO CLEAN AREAS.

Personnel Monitoring

It is the responsibility of the authoree to ascertain that all persons who use radionuclide or work in an area where radionuclide are used to wear appropriate

radiation dosimeters when required. Personnel dosimeters are provided free of charge through the Radiation Safety Officer.

Use of Radionuclide in Laboratories other than in the Radiation Facility

The design and furnishings of a laboratory must be commensurate with the hazards, presented by the radionuclide and its conditions of use. Each laboratory must therefore be evaluated individually by the Radiation Safety Officer in light of its intended use. In practical terms, some possible requirements are:

- a) Bench tops or other surfaces on which radionuclide will be used must be covered with absorbent paper with water repellent backing. Spills must be confined by working on a tray lined with similar absorbent material.
- b) Proper room ventilation and adequate storage of radionuclide must be provided.
- c) Floors must be covered with an impervious material – properly waxed, vinyl asbestos tiles are normally acceptable.

Rules for working with radioactive materials

The following is a set of laboratory rules found to be useful in reminding laboratory personnel of good radiation safety practices. These sheets may be taken from the Guide and posted in the laboratory and added to by the authoree where needed.

RULES FOR WORKING WITH RADIOACTIVE MATERIALS
ROUTINE PROCEDURES

- | | |
|---------------------------|---|
| Eating, drinking, smoking | 1. Eating, drinking, or smoking is NOT permitted in this laboratory. |
| Wash hands | 2. After handling any radioactive material before going about other work. Always wash before handling any object which goes to the mouth nose or <i>eyes</i> . Keep fingernails short and clean. |
| Pipetting | 3. Never pipette anything (even water) by mouth. |
| Protective | 4. Always use rubber or plastic gloves when handling radioactive material. Lab coats should be worn in the laboratory and left in the laboratory. |
| Confine the activity | 5. Always work over trays lined with absorbent material. Keep and transport radioactive materials doubly contained. |
| Spills | 6. Notify the Radiation Safety Office of all spills except those of a very minor nature. |
| Labeling | 7. Label radioactive materials with your name, date, isotope and quantity of isotope. |
| Before leaving | 8. Before leaving the laboratory clean up and monitor your work area and yourself. |
| Dispose of liquid | 9. Liquid radioactive waste should be held in plastic radioactive waste bottles or metal containers if the liquid attacks plastic. The quantity being disposed of, the date, and the author's name should be recorded on the container. |
| Dispose of solid radio- | 10. Solid radioactive waste should be placed in plastic active waste lined containers. The quantity being disposed of, the date and the author's name should be recorded on the waste container. |
| Counting room | 11. Take only prepared samples into the counting room. No potentially contaminated material or |

apparatus is permitted in the counting room.
This includes lab coats.

Hoods

12. Materials, which could become airborne just be stored and used in a hood. Hood ventilation should be left on all the time.

Food

13. Keep or store beverages or foods in radionuclide labs in refrigerators or freezers with radionuclide

Laboratory Glassware

14. Never allow radioactive solutions to dry on glass surfaces. Thoroughly wash immediately. Treat with warm cleaning solution or detergent in a sonic bath or with 6M HCl.

EMERGENCY PROCEDURES

Be prepared for an emergency by mentally rehearsing the following:

Extreme Hazard: e.g., high radiation levels or the possibility of airborne contamination from dry or radioactive materials.

Evacuate the laboratory immediately close and lock the door or stand guard to prevent entrance; have the Radiation Safety Officer summoned immediately. (If you have to leave the area to call the Radiation Safety Officer, remove your shoes if you suspect contamination, and do not touch anything unnecessarily).

Other hazards; e.g., spills or suspected spills of radioactive material where material does not become airborne.

Keep calm, use common sense, protect people, and do not spread contamination (always assume you are contaminated until a survey proves differently), and use the following as guides,

1. Confine contamination

- a. Localize the spill. Right tipped container; drop absorbent material on the spill. Damp down a dry spill.
- b. Do not track contamination about the laboratory. Call, do not go for help, if possible.
- c. Close door and where possible adjust ventilation to prevent spread of airborne contamination
- d. Check shoes before leaving area of a cleaned up spill,

2. Protect personnel

- a. Remove contaminated clothing and wash contaminated parts of the body with detergent.
- b. Be especially thorough in flushing out wounds.
- c. Alert other personnel

3. Decontaminate

- a. If thorough washing does not remove contamination from the body, consult the Radiation Safety Officer
- b. You will be expected to perform the major work of decontamination of the area of your spill. The Radiation Safety Officer will survey for contamination and advise on procedures and assist as necessary.
- c. All possibly contaminated persons and areas must be monitored after decontamination before normal work is resumed.

IN ALL EMERGENCIES, EXCEPT VERY MINOR SPILLS OF RADIOISOTOPES, THE RSO SHOULD BE CALLED AS SOON AS POSSIBLE.

DO NOT TRACK OR OTHERWISE PERMIT RADIOISOTOPES TO BE SPREAD INTO CLEAN AREAS

Radionuclide Authorization

Introduction

Please note that all persons at Kean University who use radionuclide must be authorized or work under the supervision of one who is authorized.

Prerequisites for Authorization

The Individual must:

1. Be a faculty or staff member with at least the rank of Instructor, Research Associate or equivalent.
2. Have adequate training and experience for the proposed uses: (Adequacy of training and experience for the proposed uses is evaluated by the RSO at the time of issuance of an authorization).
3. Have the use of adequate facilities and equipment to contain and detect the presence of the radionuclide he will use, so that there is reasonable assurance that radiation levels and contamination will be minimized. The Radiation Safety Officer will provide these.

Specific Departmental Restrictions of Radionuclide Areas

- A. All sample preparations must occur in a specifically designated and *approved room* whose sole purpose is for radioactive sample preparation, handling and counting. Other areas may be used with the approval of the Radiation Safety Officer.
- B. Use of an approved room.
 1. The intended time for use of an *approved room* for experimental procedures must be scheduled in the appointment book located in an *approved room*. In case of scheduling conflicts of the facilities the following order of priorities prevails:
 - a) Radionuclide with short-half lives.
 - b) On-going regularly scheduled class instruction.
 - c) Faculty research.
 2. Students must not be left unsupervised by authoree while radionuclide is being handled.
 3. Counting instruments
 - a) Sample cycles must NOT BE INTERRUPTED, thus different populations of samples must be counted sequentially.

- b) Priorities for use of counting instruments are similar to those shown for use of room for experimental procedures.
 - c) Samples are to be properly identified for ownership.
 - d) Samples are to be removed promptly after counting is completed.
 - e) Improper functioning of instrument must be called to the attention of the Radiation Safety Officer or Departmental Instrumentation Technician.
DO NOT ATTEMPT TO REPAIR INSTRUMENT.
 - f) Instrument sign-in sheet must be heeded.
 - g) Instructional manuals and expendable supplies for the Radiation instrumentation are kept in labeled drawers
4. Any Room C 251 sign-in sheet must be heeded.
- C. Ancillary instrumentation (such as centrifuges, incubators, water-baths, spectrophotometers) may be transported into designated areas of an *approved room*.

The user must;

1. Inform Radiation Safety Officer in writing of instrument used.
 2. Take all possible precautions to prevent or minimize contamination.
 3. Keep records of instruments used and decontamination procedures in authorees log book.
 4. Clean up and decontaminate the instruments if necessary.
 5. Return the instrument to original location.
- D. Long term in vivo experiments for tracer studies must be conducted in room C 251. Experimental organisms must be confined to the hooded areas except for the brief periods when they have to be handled.

Roles and Responsibilities

Radiation Safety Officer (RSO)

The RSO is responsible for radiation control, safety and service programs. Administratively, the Radiation Safety Officer reports to the Vice President or his surrogate, the Dean of the College of Natural, Applied and Health Sciences. The Radiation Safety Office interprets, implements and executes; (1) the policies within the Radiation Safety Guide and (2) the radiation regulations of Federal and State agencies. The RSO's primary means of administering the control and safety programs is by enforcing the University rules that:

- NO SOURCE OF RADIATION SHALL BE ALLOWED TO ENTER OR LEAVE UNIVERSITY PROPERTY OR BE USED OR MOVED ABOUT THE UNIVERSITY PROPERTY FROM AUTHORIZED SITES WITHOUT THE PRIOR KNOWLEDGE AND APPROVAL OF THE RADIATION SAFETY OFFICER.
- NO INDIVIDUAL SHALL USE A SOURCE OF RADIATION UNTIL HE OR HIS SUPERVISOR RECEIVES WRITTEN AUTHORIZATION.

Principal User (Authoree)

An authoree is the person permitted to use radiation by virtue of a written authorization, and has primary responsibility for radiation safety associated with the use of the source of radiation.

- The authoree is responsible to see that the use of radionuclide, under his/her authorization complies with
 - (1) all federal and state regulations;
 - (2) the specific conditions and limitations of his authorization; and
 - (3) the procedures and practices detailed in the Kean University Radiation Safety Guidelines.
- Must ascertain that each person using sources of radiation under his authorization is properly trained and experienced and aware of attendant radiation hazards.
- Must supervise the use of his sources of radiation to conform to all safety conditions of his authorization and those of the Kean University Radiation Safety Guidelines.

Individual

- Be fully knowledgeable of the specific precautions and handling requirements for each isotope used and of the precautions to be followed with radioisotopes in general.
- Comply with all relevant procedures contained in Kean University's Radiation Safety Guidelines in accordance with the Kean University Safety Program.
- Attend all radiation safety training as required.

Key References and Resources

Kean University Radiation Safety Guidelines, November 2002.

United States Nuclear Regulatory Commission
<http://www.nrc.gov/reading-rm/doc-collections/cfr/>

- Title 10, Code of Federal Regulations

New Jersey Department of Environmental Protection
<http://www.state.nj.us/dep/rpp/njrules.htm>

- Administrative Code, Title 7, Chapter 28

Appendix A - List of Abbreviations

Abbreviation	Description
ADA	Americans with Disabilities Act
AED	Automated External Defibrillator
AFT	American Federation of Teachers
AIDS	Acquired Immune Deficiency Syndrome
AU	Authorized Users
CAS	Chemical Abstracts Service
CDC	Center for Disease Control
CFR	Code of Federal Regulations
CHP	Chemical Hygiene Plan
CMT	Crisis Management Team
CPR	Cardio pulmonary Resuscitation
CWA	Communications Workers of America
NJDEP	NJ Department of Environmental Protection
EAP	Emergency Action Plan
EHS	Environmental Health and Safety
EICM	Engineer-in-Charge of Maintenance
EMS	Environmental Management System
EPA	Environmental Protection Agency
FPC	Office of Facilities and Campus Planning
GFCI	Ground Fault Circuit Interrupters
HBV	Hepatitis B Virus
HCV	Hepatitis C Virus
HIV	Human Immunodeficiency Virus
HSFS	Hazardous Substance Fact Sheet
IFPTE	International Federation of Professional and Technical Engineers
KUAFF	Kean University Adjunct Faculty Federation
MSDS	Material Safety Data Sheet
N.F.P.A.	National Fire Protection Agency
N.J.A.C.	New Jersey Administrative Code
N.J.S.A.	New Jersey Statutes Annotated
NRC	Nuclear Radiation Commission
NRR	Noise Reduction Rating
OCC	Ocean County College
OSHA	Occupational Safety and Health Administration
PBA	Policemen's Benevolent Association
PEL	Permissible Exposure Limit
PEOSH	Public Employees Occupational Safety and Health
PPE	Personal Protective Equipment
RM-2	Kean University Accident Report Form
RSO	Radiation Safety Officer
RTK	Right To Know
SCBA	Self Contained Breathing Apparatus
SOP	Standard Operating Procedure
TWA	Time Weighted Average

Appendix B – List of Sources and Acknowledgements

Boston University, Office of Environmental Health and Safety
Boston University Environmental Health and Safety Manual

Princeton University, Office of Environmental Health and Safety
Princeton University Health and Safety Guide