

DEPARTMENT OF ENVIRONMENTAL SAFETY



ANNUAL

REPORT

2004-2005

Prepared by The Department of Environmental Safety

Table of Contents



Department Mission Statement	1
Services	2
Staff Profile	3
Safety Program Management	4
Program Highlights.	8
Biosafety	8
Environmental Affairs	9
Fire Marshal’s Office	11
Occupational Safety and Health.	13
Radiation Safety	14
Risk Management and Communications . . .	16
Appendix	
Organizational Chart	
Financial Statement	

Department Mission Statement

The Department of Environmental Safety provides technical, regulatory, and related management services to the University of Maryland community in order to achieve a safe and healthful campus environment in compliance with environmental and life safety regulations and standards. DES takes a leadership role in working with students, faculty, and staff to arrive at innovative, cost-effective solutions in response to their needs and to create a culture in which all share the responsibility for an environmentally safe campus.

Our Mission Is Achieved Through the Following Specific Services:

- Policy and standard development related to Environmental, Safety and Health regulatory matters with a focus on cost containment.
- University of Maryland representation and reports to MDE, EPA, NRC, NIH, MOSH, OSHA, CDC, DOE, DOT, USDA, FDA, OSFM, WSSC, other appropriate federal, state, and local regulatory agencies, neighboring communities, and professional and educational organizations.
- Technical assistance and evaluation to assess and communicate risks.
- Investigation of accidents, exposures, discharges, illness clusters and incidents.
- Authorizations and certifications for ORAA and other in-house requirements.
- Implementation of customized programs in biosafety, campus safety, environmental protection, industrial hygiene, radiation protection, fire protection and insurance.
- Training and education related to Environmental, Safety and Health programs.
- Management of insurance claims process and records regarding exposures, waste, compliance, permits and incidents; oversight of inspection and testing of campus safety equipment and systems.
- Emergency planning and response for the University.
- Departmental representation and support to relevant campus committees.

DES Services

The Department of Environmental Safety provides many services to the University of Maryland community. The following is a list of DES Sections and the related programs and information. Further detail is available at www.essr.umd.edu/general/map2.html

Biological Safety

Autoclave Procedures
Autoclave Safety
Bloodborne Pathogens
Containment Laboratory Design
Infectious Agents
Recombinant DNA
Select Agents
Sharps (Use and Disposal)
Shipping Infectious Agents

Environmental Affairs

Air Quality Permitting
Emergency Spill Response
Environmental Site Assessment
Environmental Sustainability
Facility Planning–Real Estate Support
Hazardous and Controlled Waste Management
Laboratory Clean Outs
Natural Resource Permitting
Oil Management
Pollution Prevention Management
Stormwater Permitting and Monitoring
Wastewater Permitting

Fire Marshal's Office

Construction Plan Review and Inspection

Fire and Life Safety Inspections
Fire Safety Education
Greek Facilities Safety
Hot Works Permits
Open Fire Permits
Laboratory Fire Safety
Public Assembly
Resident Hall Fire Safety
Stairwells/Corridors
Fire Investigation
Consultation and Risk Assessment

Radiation Safety

Dosimetry–Radiation Producing Equipment
Dosimetry–Radiation Producing Materials
Laser Safety
Particle Accelerators
Radiation Producing Equipment
Radiation Producing Materials
X–ray Devices

Occupational Safety/Health

Accident/Incident Response
Asbestos Management
Autoclaves/Sterilizers State Inspection
Chemical and Lab Safety
Confined Spaces
Construction Safety

Design Review
Electrical Safety
Ergonomics
Fall Protection
Hazard Communication
Hearing Conservation
Incident Response
Indoor Air Quality
Lead Management
Lockout–Tagout
Material Safety Data Sheets
Noise Control
Personal Protective Equipment
Powered Industrial Trucks
Respiratory Protection
Water Testing

Risk Management and Communications

Diving Safety
E,S&H Management Policy
Fifteen Passenger Van
Insurance
Public Education
Tort Claim
Training Record
Training Schedule
Travel Safety
Vehicle Accident
Workers' Compensation

Staff Profile

The Department of Environmental Safety is comprised of 39 full and part time professionals who support the mission and goals of the department. The following provides a summary of education, specialized training and experience of the DES staff.

Number of Bachelor's Degrees	30
Number of Master's Degrees	17
Number of Graduate Certificates	1
Number of certifications	35
Number of years of combined experience	> 540 years

Certifications, Designations and Specializations:

- American Academy of Microbiology Specialist Microbiologist
- Assistant State Fire Marshal
- Certified Biological Safety Professional (CBSP)
- Certified Fire and Explosion Investigator
- Certified Fire Inspector I, II, III
- Certified Fire Protection Specialist (CFPS)
- Certified Hazardous Materials Manager (CHMM)
- Certified Industrial Hygienist (CIH)
- Certified Professional Environmental Auditor (CPEA)
- Certified Safety Professional (CSP)
- Comp TIAA A+
- Diving Certifications (6)
- First Aid and CPR
- ICC Certified Fire Inspector
- Paralegal Certificate
- Professional Engineer
- Registered Biosafety Professional (RBP)
- Registered Environmental Professional (REP)
- Special Assistant State Fire Marshal – Inspector
- Special Assistant State Fire Marshal – Inspector / Investigator
- State of Maryland Certified X-ray and Accelerator Inspectors

Safety Program Management

SUPPORT OF THE UNIVERSITY MISSION

DES is committed to supporting the University in its mission and goals to fulfill the state's mandate as the Flagship Institution of the University System of Maryland to the best of our ability. In 1988 and again in 1999, the State of Maryland affirmed a commitment to bring the University into the nation's top twenty public universities. This goal was achieved and now the University is looking to rank among the top ten public universities. Despite the fiscal challenges faced by DES in the last several years, the department has managed to support the mission as illustrated in the following:

- Provided biological safety support for the study of avian influenza. The research is sponsored by the USDA with the largest grant ever provided to study a single animal disease.
- Provided consultation service in the design of the Kim Engineering Building.
- Developed online training for a variety of required regulatory topics.
- Supported college safety initiatives such as the CMPS Lab Safety Policy.
- Provided code review for on and off campus properties.
- Provided containment laboratory design consultation during renovation of two containment laboratories.

CUSTOMER AND STAKEHOLDER SATISFACTION

DES considers its customers to include the university's faculty, staff, students, affiliates and visitors to the campus. The department staff continued to participate in a variety of campus committees and work groups and implemented many programs to help ensure the safety and well being of the campus community and its environment. Some examples of customer service oriented initiatives are:

- Reorganization of administrative functions under the Manager of Business and Customer Services to provide better efficiency, consistency and service.
- Redesign of DES home page to improve navigation.
- Participation in the development of the environmental stewardship concept including a steering committee and guidelines.
- Successful registration of UM with the USDA Select Agent Program.
- Development of a college-focused laboratory safety training program.
- Design of a Workers' Compensation FAQ pamphlet in English and Spanish.
- Provision of insurance-related information in student packets.

BUSINESS OF SAFETY

DES is aware of the importance of fiscal decisions in tailoring its programs. To strengthen the understanding of the department and to raise the awareness of the campus to the positive financial impacts of a strong safety, health and environmental program, DES has undertaken an initiative to participate in seminars and training sessions on the subject “The Business of Safety.” For example, Georgetown University’s Center for Business and Public Policy has hosted a symposium series that has included topics such as “The Relationship Between Firms’ Safety and Financial Performance: Theoretical and Empirical Evidence.” The symposium showcased what is known and what remains to be learned about the economic case for occupational safety and health and how results can be measured. Another topic, “Workplace Health Protection and Health Promotion: What Will It Take to Do Both Well?” focused on incentives and challenges in implementing these often separate but related programs.

DES is also exploring the possible use of the Return on Health, Safety and Environmental Investments (ROHSEI) process. ROHSEI, developed by a group of fifteen global companies, allows users to evaluate health and safety investments on a cost/performance basis as an alternative to using trailing measures of “failure”, such as lost workday injury and illness rates, to assess an organization’s health and safety performance.

PROFESSIONAL DEVELOPMENT

DES prides itself on a highly educated and experienced staff. The technical, scientific and regulatory compliance nature of the field of environmental health and safety makes it crucial that staff stay competent, proficient and current in their fields of expertise. Often, it is necessary to provide new skills and knowledge for greater depth and to assist with professional growth. A commitment to supporting the professional development of our staff is evidenced in the inclusion of this as a goal in each staff member’s Performance Review.

DES staff attend a variety of professional conferences, seminars, symposia and training programs throughout the year and are often speakers and presenters. This year, DES staff members presented at the National Fire Protection Association World Safety Conference and Exposition, the American Society of Safety Engineers Professional Development Conference and the Campus Safety Health and Environmental Management Association Regional Conference.

Many DES staff serve on regional, state and national committees, advisory boards and professional society boards of directors. Some examples are:

- Meeting participant on Capitol Hill to discuss proposed legislation for campus fire safety.
- NFPA standards committees.
- Council on Governmental Relations, working group on Research Security.
- Subcommittees to write new chapters on Biosecurity and Level-3 Agriculture Containment for 5th edition of the NIH/CDC Biosafety in Microbiological and Biomedical Laboratories.
- Ad hoc member of NIH Recombinant DNA Advisory Committee, Safety Considerations in Recombinant DNA Research with Pathogenic Viruses.
- EPA College and University Sector Program – Environmental Management Systems Work Group.
- American Industrial Hygiene Association, Biosafety and Environmental Microbiology Subcommittee.
- American Society of Safety Engineers, Campus Fire Safety Advisory Group.
- Governor’s Risk Management Advisory Council.
- Maryland Department of the Environment Work Group on State Agency Environmental Compliance.
- Board of Directors Chesapeake Region Safety Council
- Chesapeake Region Safety Council - School and Colleges division.
- State Risk Management Committee.
- University Risk Management & Insurance Association – Inter-Association Alliances Subcommittee.

CAMPUS AND COMMUNITY OUTREACH

DES staff members help to support the campus through collaborative work on safety-focused committees and groups that plan special events on campus. These committees and work groups include:

- Biological and Chemical Hygiene Committee
- EH&S Policy Committee
- EH&S Operations Committee
- Radiation Safety Committee
- Institutional Biosafety Committee
- UM Accident Review Board
- Maryland Day Planning Committee and Event
- Terrapin Pride Day in Annapolis
- Commencement Committee
- Environmental Stewardship Committee

SPECIAL INITIATIVES

A number of initiatives were undertaken during this fiscal year. Of special note are:

- Hiring of a new Director in September 2004.
- Reorganization of the financial and administrative functions into the Business and Customer Service division.
- Reorganization of Radiation Safety into the Environmental Affairs division.
- Development of a Strategic Plan for Fiscal Year 2006.
- Building egress safety initiatives with Facilities Management.
- Development of a proposal for central monitoring of the campus fire alarm systems.
- Participation and leadership role on the Maryland Department of the Environment Work Group on State Agency Environmental Compliance.
- Meetings with the 15 Deans to discuss environmental health and safety issues.
- Participation on the University's Business Continuity Plan Committees.
- Successful proposal to host the EPA/NACUBP/SCUP/APPA "Smart and Sustainable Campuses Symposium" in November 2005.
- Review and revise DES Incident Response Plan.
- Successful registration of UM with the USDA Select Agent program.
- Development of environmental stewardship guidelines.
- Participation in planning and facilitation of Infectious Disease Outbreak tabletop with multiple campus groups.
- Initiation of the USM Information Technology for Environmental Health & Safety Departments Work Group.
- Reorganization of Code and Safety Services to transition fire code functions to Fire Marshal's Office and safety functions to Occupational Safety and Health.

Program Highlights

BIOSAFETY

The Biosafety Unit is concerned with providing guidance to the University community in the prevention of occupationally acquired infections. We accomplish this by serving as a source of information to faculty, staff, and students who conduct research involving infectious agents and recombinant DNA, and by assisting University members to comply with federal, state and local regulations and guidelines related to such research. During the past year, we have been involved in the following initiatives:

- Coordinated the University's successful registration with USDA for possession and use of select agents.
- Reviewed 134 faculty applications for external funding for use of recombinant DNA and infectious agents.
- Processed 48 registrations submitted by faculty for use of recombinant DNA or infectious agents. Most were reviewed and approved by DES; those requiring BSL3 containment are reviewed by the Institutional Biosafety Committee.
- Provided containment design consultation to the Department of Veterinary Medicine and the Department of Cell Biology and Molecular Genetics for renovation of their Biosafety Level 3 laboratories.
- Developed new online BBP refresher training for researchers.
- Revised BBP exposure Control Plan and UM Biosafety Manual
- Served as executive secretary for the UM Biological and Chemical Hygiene Committee and the UM Institutional Biosafety Committee.

BLOODBORNE PATHOGENS TRAINING

In addition to supporting University researchers who work with biological materials, the Biosafety Unit provides training to staff that may come into contact with human blood during the course of their work. During the past year, we have provided the following support for these staff members:

- Classroom training
 - DES provided 19 classes
 - Seventeen classes (3 in Spanish) for UM employees (total of 455 employees from housekeeping, grounds, piped services, residential facilities, athletic trainers)
 - Two classes for College Park employees (total of 57 individuals attended)
 - Seven classes provided by other departments
 - CRC trained 449 employees
 - Residential Facilities trained 8 employees in Vietnamese
- Online BBP training for researchers
 - Initial training program – 107
 - Refresher training program – 31

ENVIRONMENTAL AFFAIRS

The Environmental Affairs Unit was involved in a wide range of initiatives during the 2004–2005 fiscal year. During the past several years, the unit has expended considerable effort in the development and implementation of required environmental regulatory compliance programs and continues to be significantly engaged in these efforts. The major regulatory programs focus on the management of hazardous, radioactive and biological waste including the operation of a permitted storage facility; stormwater permitting, sampling and reporting; the inspection of oil storage tanks and associated training; air quality permitting and reporting; and internal auditing. In addition, the unit responds to incidents and emergencies involving petroleum and hazardous materials and supports campus construction, real estate and planning efforts. Table 1 presents year-end statistics related to these programs.

Increasingly, the Environmental Affairs Unit is working with various academic and non-academic units to move the campus environmental program beyond compliance and toward greater environmental sustainability. Major initiatives during the reporting year included:

- Support of the campus Environmental Stewardship Committee in the development and adoption of the campus Environmental Stewardship Guidelines and the drafting of associated Best Management Practices. The Guidelines were presented at a public forum in March 2005 and were unanimously adopted by the University's Facilities Council.
- The solicitation of the US Environmental Protection Agency (USEPA) to hold a national college and university environmental sustainability conference at the University. The conference, entitled "Smart and Sustainable Campus Symposium" will be held at UM on November 3–4, 2005.

- Preparation of documentation for a USEPA and US Department of Energy “2005 Energy Star Award” for the University’s new Combined Heat and Power facility that supports the majority of campus buildings with electricity, steam and chilled water. The University’s application was successful.
- Implementation of several initiatives to reduce the quantity and toxicity of hazardous waste on campus. One successful project involved the purchase of water-based parts washers to replace solvent washers in 4 departments. The units are safer for employees and the environment, and are anticipated to save \$20,000 per year after the first year of operation.

In addition to ongoing program development efforts, the Environmental Affairs Unit continues to be an instrumental participant in campus operations and development. The unit is an active participant in the planning and commissioning of new facilities, in the acquisition of new properties and in collaboratively resolving existing environmental issues. For example, Environmental Affairs was involved in the following efforts during the reporting year:

- Evaluation of the new Kim Building for potential ambient air emissions, hazardous waste management and wastewater permitting.
- Permitting of new boiler units for the Biosciences building currently under construction.
- Finalization of an Environmental Sampling Workplan for possible redevelopment of the East Campus district.
- Contractor selection and oversight related to integrity testing of fuel lines supplying bulk fuel to the campus Combined Heat and Power Facility.
- Environmental permitting support to the Maryland Fire and Rescue Institute to redirect fire training wastewater from stormwater outfalls to the sanitary sewer, thereby eliminating the current stormwater permit.
- Development of a stormwater banking agreement with the Maryland Department of the Environment (MDE) that provides stormwater credit for future campus projects through a central stormwater management facility.

As part of the Unit’s mission, Environmental Affairs also participates on external committees that focus on environmental compliance and sustainability at colleges and universities. In 2005, the Unit represented UM and the University System of Maryland on the MDE’s “State Agency Environmental Compliance Workgroup”. This group was formed by MDE to identify strategies that would facilitate and better assure environmental compliance within Maryland’s state agencies. The workgroup’s goal was to develop and submit recommended approaches to the Governor for consideration and inclusion in an Executive Order. In addition to efforts with MDE, the Unit was also a participant in the US EPA’s national College and University Sector program that is focused on the development of Environmental Management Systems (EMS) at colleges and universities. During the past year, the Workgroup developed a national website as an information clearinghouse for colleges and universities interested in developing an EMS. In the coming year, the Unit anticipates continued participation in the USEPA Sector program, the continued implementation of the campus Environmental Stewardship Guidelines, and a successful national environmental sustainability

conference. The Unit will continue to be challenged by its environmental compliance responsibilities due to the growth of the University, both on and off campus, and the increasingly complex nature of the research being performed.

**TABLE 1 SELECTED PROGRAM STATISTICS FOR 2004-2005:
ENVIRONMENTAL AFFAIRS UNIT**

No. of Containers of Controlled Waste Collected	9,897
Pounds of Hazardous Waste Managed	100,300
Cost Savings from Waste Minimization Efforts	\$34,000
No. of Individuals Trained	605
No. of Chemical Incident Responses	60
No. of Environmental Service Requests	76

FIRE MARSHAL’S OFFICE

The Fire Marshal’s Office is responsible for: managing the University’s compliance with the State Fire Prevention Code and other applicable fire safety laws and standards; providing fire safety education and training; investigating all fires that occur on University property; and performing plan review and construction inspections. Life safety is the primary objective of the fire safety program.

DES Fire Marshals are delegated fire prevention and investigation authority by the Maryland State Fire Marshal pursuant to Public Safety Article, Title 6 of the Maryland Code. The University Fire Marshal is appointed as an Assistant State Fire Marshal. The Deputy Fire Marshals, Fire Inspectors, and Fire Protection Engineers are appointed as Special Assistant State Fire Marshals.

A typical year in the Fire Marshal’s Office includes many diverse activities. All residence halls, University-owned and privately owned Greek houses, and public-private apartment buildings are inspected. Public assembly details are provided at all football games in Byrd Stadium, basketball games in the Comcast Center, and other large or high profile special events. Fire drills are conducted in all residence halls, the Center for Young Children, and the University Health Center. Training is provided for Resident Assistants, lab workers, Greek House Directors, event managers, UM Police Academy, and UM Police Auxiliary. Required hot work, open burning, pyrotechnic and explosives licenses are coordinated and/or issued. Emergency response is provided for fires and other emergencies on a 24/7 basis. Consultation and planning are provided to the campus community. Construction plans are reviewed and construction inspections are performed for capital and campus projects.

The Fire Marshal’s Office has Authority Having Jurisdiction (AHJ) responsibilities that extend beyond the College Park campus. The Code Services Unit is part of the Service Center that performs plan review and construction inspections for other campuses including Frostburg University, Salisbury University, Bowie State University, UMES, UM Shady Grove and UMUC.

Major construction projects completed and approved for occupancy include: Kim Engineering Building, Stamp Student Union renovation, University Health Center addition, Riggs Alumni Center, USM Hagerstown Center, UMES Social Sciences Building, and Bowie Place apartments at Bowie State. The total value of on-going construction projects is over \$500 Million.

In addition, Fire Marshal's Office personnel participate in professional organizations and provide community outreach.

Conference Presentations

- NFPA World Safety Conference & Exposition, Las Vegas, NV. Electrical Fire Tragedy Compels Change: A University Experience.
- National Forum on Campus Fire Safety, Capitol Hill, Washington, D.C. Case Study: Student Fire Fatality near University of Maryland.
- Prince George's County Property Owner's Association, College Park, MD. Fire Safety in Off-Campus Housing.

Committees/Outreach

- Maryland Metropolitan Fire Chiefs Fire Marshals Subcommittee
- NFPA 1037 Professional Qualifications for Fire Marshals
- UM Commencement Committee
- UM Maryland Day Planning Committee and Logistics Sub-Committee
- UM Homecoming Committee and Parade Sub-Committee

TABLE 2 FIRE MARSHAL'S OFFICE HIGHLIGHTS AND SELECTED STATISTICS FY 2005

Residential Inspections	93 buildings (includes 576 apartments)
Emergency Response	49 incidents (includes 11 serious code violations)
Fire Investigations	13 conducted
Public Assembly	49 details
Fire Drills	101 conducted
Hot Work Permits	452 issued
Construction Plans	187 reviewed
Major Training Courses/ Certifications	Fire Inspector I, II, III, Haz-Mat Awareness, Fire Investigator
Fire Prevention Activities	Five days of activities for fire prevention week including "Fire Safety Jeopardy," special fire drill at high rise with fire department, "meet the firefighters" lunch at a dining hall, arson display with visit from State Fire Marshal arson dog; Distributed 4,000 kitchen fire safety packs to apartment buildings in response to increased number of kitchen fires; Ran department designed fire safety posters in UM Shuttle buses for one month.

OCCUPATIONAL SAFETY AND HEALTH

The Occupational Safety & Health (OSH) unit develops and manages programs to recognize, evaluate and control possible sources of occupational disease and injury caused by chemical, biological or physical hazards. OSH works with the campus community to facilitate operations in a safe and healthful manner while also helping to ensure compliance with federal Occupational Safety & Health Administration (OSHA) regulations as well as other local, state and federal regulations. OSH fulfills this safety and health commitment by developing campus policies and procedures, training programs, workplace evaluations, hazard assessments, and inspections. OSH's training programs are implemented through face-to-face training seminars and through on-line training, via DES' web site. OSH training includes the following topics: Asbestos, Fall Protection, Personal Protective Equipment, Electrical Safety, Fall Protection, Powered Industrial Vehicles, Indoor Air Quality, Hazard Communication, Confined Space, Ergonomics, Lab Safety, Lead, Code Services, Research Pressure Vessels State certification and inspection, and Design Review. Frequently customized training courses are developed to meet individual department needs.

During this past year several OSH training programs were updated to ensure that they included the latest information and requirements. These updated training programs included: Lock-out/Tag-out, Confined Spaces, Personal Protective Equipment, Fall Protection, Laboratory Safety, Chemical Hygiene, and Electrical Safety. The OSH group conducted 116 classroom training seminars and provided 4 on-line training classes during fiscal year 2004-2005. The OSH group trained a total of 2,045 University employees during fiscal year 2004-2005, of which 1,853 attended classroom seminars and 192 were through on-line seminars. The OSH group also responded to 135 incidents in fiscal year 2004-2005.

Project and program highlights for the OSH group include:

- Participated in the environmental health and safety design aspects of the new Kim Engineering building as well as the design review for many other projects on and off campus.
- Participated in a campus wide electrical safety program review and the development of a specialized electrical safety training program following the Physics incident and fatality of Kurt Tasche.
- Co-presented "Electrical Fire Tragedy Compels Change – A University Experience" at the National Fire Protection Association World Safety Conference with UM Fire Marshal.
- Developed and presented research titled "Training in Occupational Safety and Health in Immigrant Communities Tailored to Cultural Backgrounds" at the ASSE 2005 Annual Conference.
- Worked with IREAP to support a process hazard analysis and design review for the Three Meter Liquid Sodium Geodynamo Model.
- Performed over 78 Indoor Air Quality (IAQ) Investigations.

-
- Completed testing of campus building drinking fountains and faucets for lead, assisted Facilities Management in the development of a correction plan for one building, and posted the results for interested campus faculty, staff and students.
 - Completed responses to approximately 60 separate asbestos-related service requests or incidents including comprehensive building surveys at six Residential Facilities dormitories.
 - Assisted UM departments including Facilities Management in completion of Personal Protective Equipment Hazard Assessments as required by OSHA.
 - Completed a comprehensive evaluation and developed specialized safety awareness training programs for Clarice Smith Performing Arts and Dining Services.
 - Completed a comprehensive evaluation and developed an update to the Confined Space Program.
 - Involved in the development of a comprehensive evaluation and development of the Fall Protection Program.
 - Completed a comprehensive ergonomics evaluation of Facilities Management Grounds lawn care equipment.
 - Developed a protocol for Chemical Hygiene Plans for laboratory facilities.
 - Developed a Liquid Nitrogen training program for DES web site.
 - Certified employees on the use of forklift campus wide and research farms off campus.
 - Registered and certified through the State Department of Labor, Licensing and Regulation, a large number of autoclaves and steam generators across campus.

RADIATION SAFETY

Radioactive material and radiation producing devices are powerful research tools used by a variety of departments at the University of Maryland College Park and at satellite campuses within the broader University System of Maryland. Federal and state regulations require that sources of ionizing radiation be under the control of a Radiation Protection Program to insure the health and safety of both the researcher and members of the general public. The potential and real harm associated with radiation is the one of the most studied and investigated fields involving human detriment, yet at the same time providing enormous benefits in science, industry and medical fields, including the healing arts.

The objective of the Radiation Safety Office is to keep radiation exposures to all individuals As Low As Reasonably Achievable (ALARA). The Radiation Safety Office maintains a well-established regulatory compliance program and works with the campus Radiation Safety Committee to ensure campus compliance with state, federal and local regulations. This objective is met by adherence to basic protection principles and practices including controlled access of personnel, property, and material; inspection and surveys of laboratories; and personnel training. The office conducts online and one-on-one training with personnel requesting to use radioactive sources and radiation producing devices; monitors individual exposures through dosimetry; and conducts quarterly inspections of

authorized users. The office also assists the Environmental Affairs Unit in the disposal of unneeded radioactive sources as well as radioactive waste. Table 3 presents selected program statistics for fiscal year 2005.

An essential element of maintaining campus compliance and keeping personnel safe from unnecessary exposures is by staying abreast of radiation regulations, standards and recommended practices. The Radiation Safety Office actively participates in the Penn State Roundtable which enables Radiation Safety Officers (RSOs) from across the country to meet and exchange ideas and practical methods of radiation protection. Our participation has led to sharing our unique on-line and practical one-on-one training programs with other institutions and our office has received valuable ideas from other campus radiation safety programs.

As part of its ongoing mission, the Radiation Safety Office continues to seek cost effective opportunities to reduce program costs. Our badge reduction program begun last fall is working towards reducing the number of personnel that require monitoring for radiation protection. Working with the Radiation Safety Committee, staff, students and professors, and the Maryland Department of Environment (MDE), we are reducing the number of personnel badges based on excellent work practices in the lab, training and a baseline exposure assessment. This program reinforces safety precautions in using radiation, reduces the cost of monitoring and maintains exposures to ALARA or below.

During the past fiscal year, the Health Physics staff faced two new developments. The first new challenge involved the use of radiation in the healing arts with the procurement of a mini C-ARM fluoroscope by the Athletic Department. This device required the implementation of new procedures and our office received specialized training at the Oak Ridge Associated University in Oak Ridge Tennessee. This was the first step toward ensuring compliance in this new area. In addition, the office has long supported research involving radiation producing devices such as X-ray diffraction units and accelerators. These units require State certification. During the past year, the Radiation Safety staff became State certified inspectors allowing us to conduct inspections for certain equipment in lieu of MDE. Similarly, the Radiation Safety Officer (RSO) was approved as a State certified accelerator inspector for the State of Maryland; enabling the RSO to perform annual inspections required by the State for accelerators on campus.

**TABLE 3 SELECTED PROGRAM STATISTICS FOR 2004-2005:
RADIATION SAFETY UNIT**

No. of Principal Investigators	136
No. of Personnel Trained During FY 2005	65
No. of Personnel in Dosimetry Program	650
No. of Radiation Packages Received	267
No. of X-ray and Accelerator Inspections	20
No. of Laboratory Inspections	575

RISK MANAGEMENT AND COMMUNICATIONS

Risk Management is the planning, organizing, leading and controlling of operations of the organization in order to minimize the adverse effects of accidental and avoidable losses without unduly curtailing or modifying activities necessary to the mission of the University. The Risk Management and Communications (RM&C) unit is responsible for the management of risks to and loss of human, property and financial resources to the University. RM&C accomplishes this by: monitoring the dynamic environment of the university on an on-going basis to identify sources of loss to UM property, employees, students and the general public; evaluating the impact of losses in terms of frequency and severity; and developing the most effective and economical means to attempt to control the causes of loss through loss control efforts.

Additionally, RM&C provides consultation and information and advises and assists university administrators, department chairs, faculty, staff, students, affiliated State agencies, and the general public on appropriate risk management policies, procedures and issues related to campus safety, tort claims, insurance claims, insurance coverage, workers' compensation, loss control, and general risk management issues.

RM&C services include: vehicle, property loss and tort liability claims processing, workers' compensation claims processing and case management, data tracking and accident trend analysis, scientific diving program development & coordination, business continuity/disaster recovery planning, accident investigation, coordination of EH&S training, management of DES IT and LAN support, research, athletic, special event risk assessments, student activity review, and risk management consultation.

During fiscal year 2004–2005, a number of risk management projects and/or initiatives were accomplished:

- Working with the state's third party administrator (IWIF) for workers' compensation claims, UM has been instrumental in prompting many changes in the reporting and retrieval of workers' compensation data from the IWIF claims system. The changes have benefited all State agencies in gathering specific data beneficial to their organization.
- Development and distribution of the Workers' Compensation Frequently Asked Questions pamphlet in English and Spanish and provided training on job-related injury procedures and benefits for Latino employees. A web page for Spanish speaking visitors and supervisors of Spanish speaking employees that includes several commonly requested documents was also created.
- RM&C finalized the 2004 Workplace Safety Incentive Program for which UM received a \$70,000 grant from the State of Maryland. Of the total, \$40,000 was applied toward the application of non-slip flooring in Dining Services areas to reduce slip and fall injuries and \$30,000 was applied toward the UM Electrical Safety Program for employee training and the purchase of personal protective equipment.

-
- Worked with the Maryland Emergency Management Agency Hazard Mitigation Team to determine, assess and explore mitigation actions to State-owned facilities on the UM campus that are most at-risk of multiple hazards, and those at-risk of flash and riverine flooding that can be included as possible mitigation projects in the 2007 version of the State Mitigation Plan.
 - As part of the UM Business Continuity Committee, RM&C assisted in developing the UM Business Continuity Plan/Report submitted to the Vice President's Office.
 - Expanded risk management activities into Student Affairs in working with Fraternity and Sorority Life and made presentations to Greek Community House Directors on risk issues involving students.
 - Implemented the web-based Tenants and Users Liability Insurance Program to uniformly provide a process and oversight for third party users to obtain low cost general liability insurance to use UM facilities.
 - Participated in the development and facilitation of the Infectious Outbreak (SARS) table top drill in coordination with the Department of Public Safety, University Health Center, Residential Facilities, Resident Life, University Communications and PG County Health Department.
 - Upon surveying various members of the University community, RM&C redesigned the DES home page to improve navigation. The redesigned web site won third place in the 2004 competition sponsored by the Campus Safety, Health and Environmental Management Association. The award recognizes web sites based on editorial content, ease of navigation, consistency with the school's image and goals, use of the technological medium, and opportunities for reader responses.
 - Presented "Property Issues in Higher Education" at the Higher Education Roundtable sponsored by Marsh Insurance.

TABLE 4 RM&C SELECTED STATISTICS FOR FY 2004-2005

WORKERS' COMPENSATION

	CALENDAR YEAR 2004	JAN-JUNE 2005
Accidents Reported	503	266
OSHA Recordable Accidents	180	
Claims	63	
Settlements	20	
Total Settlements Paid	\$306,375	
Total Medical Paid	\$569,096.08	\$121,877.03
Total Compensation Paid	\$249,748.40	\$ 8,561.70

INSURANCE SERVICES

CLAIMS FOR 2004-2005

Vehicle Accidents	277
Tort Claims	29
State Insurance Trust Fund Claims	40

Selected SITF Claims Detail 2004-2005

- Hartwick Bldg – 2003 Fire- 2004 Finalized Total Claim Loss - \$611,029
- Geology Dept – Chemistry Bldg. – Water Pipe Break - \$369,935
- July 4th Campus Wide Flooding - \$304,559
- Scub II – Sprinkler Activation – Flooding - \$38, 266
- Gudelsky Building – Frozen Water Pipe Burst - \$130,620
- Comcast Center – Hot Water Pipe Leak on Basketball Courts - \$7,800
- Marie Mount – Water Line Separation – Flooding – \$16,036
- Norovirus Outbreak – Viral Outbreak - \$ 85,274
- Physics Bldg – Broken Hot Water Line - \$22,394
- Fraternity & Sorority Life – Sprinkler Activation – Flooding - \$35,485
- LeFrak Hall – Activated Sprinkler – Flooding - \$95,135

SCIENTIFIC DIVING

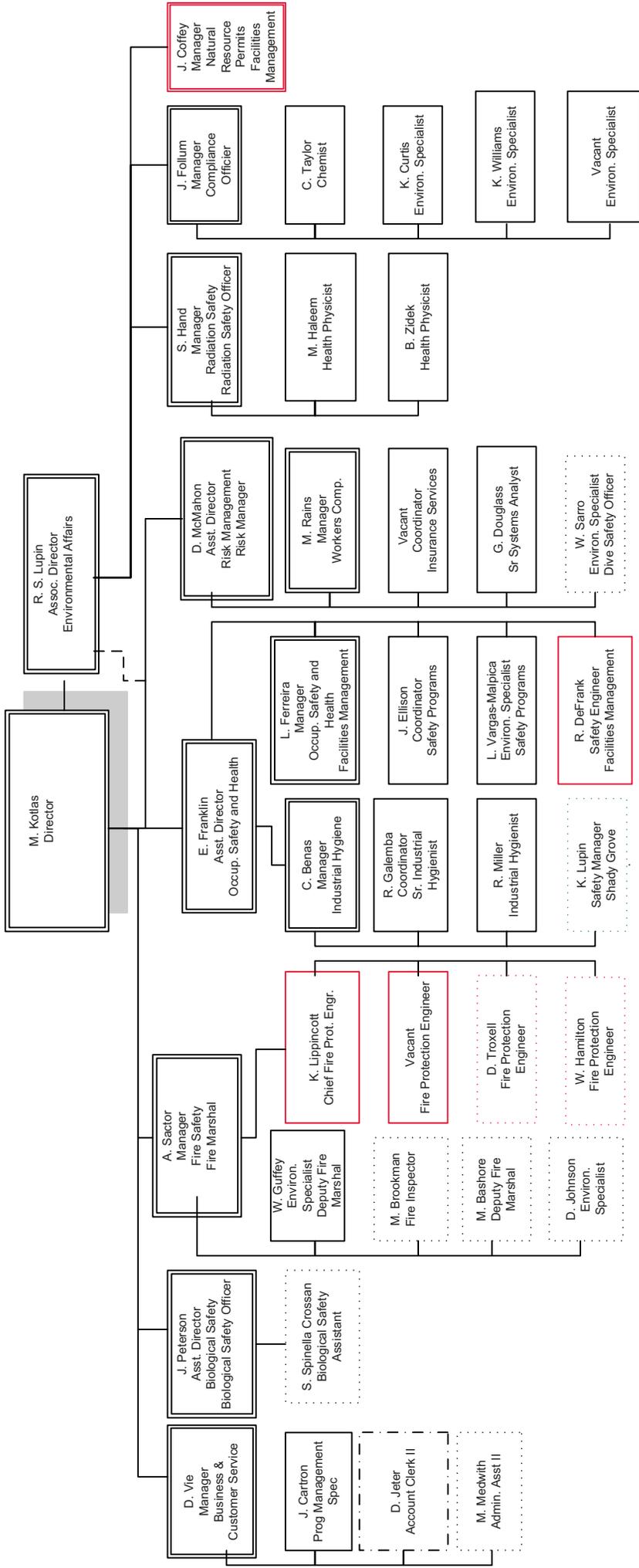
- Neutral Buoyancy Research Facility 2004 Dive Statistics
 Dive time in minutes (hrs:min:sec): 508:48:27 Dives logged: 288
 Number of divers logging dives: 26
- Other UM Divers 2004 Dive Statistics
 Dive time in minutes (hrs:min:sec): 1099 Dives logged: 65
 Number of divers logging dives: 4

IT & COMMUNICATIONS

- Since January 2004, DES's 14 on-line training programs were taken over 1100 times.
- DES receives, on average, 160,000 hits to the web pages each month and over 1.7 million visits annually, including 850,000 users on campus.
- DES web site has over 700 dynamic web pages; the DES Intranet contains over 350 pages

Appendix

Organizational Chart



State Line
Management
Position

State Line
Position

Contingent IT
Position (Not
on a State Line)

Contingent I
Position (Not
on a State Line)

Facilities
Management
Position

Financial Statement

SALARIES AND BENEFITS

UNIT	BUDGETED
Business Management and Customer Service	321,275
Biological Safety	84,014
Fire Marshal's Office	105,954
Environmental Affairs	334,676
Occupational Health and Safety	389,677
Radiation Safety	189,527
Risk Management and Communications	255,163
<hr/>	
Total Salaries and Benefits	1,680,286

OPERATING AND EQUIPMENT

UNIT	BUDGETED
Business Management and Customer Service	122,630
Biological Safety	18,318
Fire Marshal's Office	10,550
Environmental Affairs	162,339
Occupational Health and Safety	63,000
Radiation Safety	17,000
Risk Management and Communications	10,750
<hr/>	
Total Salaries and Benefits	404,587
<hr/>	
Total Direct Expenses	2,084,873