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Our Vision
Our Vision is to have a campus where safety and sustainability are core values at every level of the institution and DES is a critical asset in the management of university risks through our technical expertise, our quality of work and our professional integrity.

Our Mission
Our Mission is to provide leadership in the identification and management of safety and environmental risks and work with the campus community and external partners to foster excellence in safety and sustainability.

Our Values
The Department of Environmental Safety holds these Values as intrinsic to our mission —

**Protect People and the Environment**
We put the highest priority in returning people home the same or better than they arrived. Through education, training and knowledge sharing we promote a culture of safety and sustainability.

**Excellence**
We expect state-of-the-art competencies of ourselves and others in all areas of workplace safety, environmental management and sustainability. We deliver critical, high quality programs and services to the campus community.

**Leadership**
Our people at all levels, have ownership and take initiative in their areas of responsibility and demonstrate the safe, sustainable and environmentally friendly behaviors we expect of others.

**Service**
We provide professional services to the University of Maryland community. We are a resource for those we support and we follow through on our commitments in a timely manner.

**Diversity**
We acknowledge and honor the fundamental value and dignity of all individuals. We are committed to inclusiveness and actively seeking and encouraging discussion and participation from a diverse group with different perspectives.

**Collaboration**
We are committed to building partnerships and working together to find the best solutions to collectively achieve our goals. We are open to new ideas and creative solutions. We seek to engage and motivate the campus community to accept ownership of the university’s safety and sustainability culture.
The Environmental Affairs (EA) section is responsible for facilitating compliance with federal and state environmental regulations and the management of environmental risk through the development of policies and procedures, permitting, training, internal monitoring, studies and consultation. EA supports faculty, staff and students in laboratory/clinical areas, general workplace settings (e.g., dining services, dormitories and residences, athletics), and facilities management shops and planning offices. EA has the oversight and development for the university’s environmental permitting and compliance programs, such as regulated and universal waste management, air quality (Title V) permits, fuel and oil storage tank management, water quality (NPDES) permits, environmental assessments and real estate initiatives.

Regulated Waste Programs

The Regulated Waste Program pertains to the management and disposal of all chemical, biological, and radioactive waste generated at UMD and its satellite facilities. The Program has been scrutinized by both federal and State environmental regulatory agencies without any Notice of Violations and monetary fines issued.

EA operates one of only two fully permitted treatment, storage, disposal, facilities (TSDF) at a Maryland college or university. The UMD building was designed in 1981 and requires renovation and upgrades to better reflect current and safe practices for the handling of campus regulated waste as well as to address deficiencies in the building site design. The project has been funded and will require extensive participation and coordination from the EA staff.

Regulated Waste - EA processed 7,838 Regulated Waste containers in 2012, equating to 101,950 pounds and total disposal costs of $97,915.

Air Quality Permitting and Reporting

The university is subject to the requirements of the Clean Air Act and considered a major source of emissions primarily due to nitrogen oxide (NOx) emissions from the Central Heating Plant. The Maryland Public Service Commission has issued a Certificate of Public Convenience and Necessity (CPCN) authorizing and imposing operating conditions at the Central Heat Plant.

For the past 10 years, EA has been the primary unit responsible for Title V permit and CPCN operational requirements at UMD. EA collaborates with other departments on campus to ensure that these requirements are being met and expects to receive a new Title V Permit in the summer of 2013.

• Reporting Requirements:
EA collects, analyzes, and submits emission and compliance certification reports to Maryland Department of the Environment (MDE) and the Environmental Protection Agency (EPA).
• **Testing Fuel Burning Equipment (FBE):**
  EA oversees the annual testing of the exhaust gases from registered FBE.

• **Permitting:** EA prepares and submits permit applications and notifications to MDE, MD Public Service Commission, and local electrical distributor.

• **Greenhouse Gas Monitoring (GHG):**
  Federal regulations require the monitoring of GHG emissions from UMD FBE equipment.

**Fuel and Oil Storage Program**

The university maintains 72 above ground fuel storage tanks and approximately 250 pieces of equipment containing various petroleum products, having a total combined storage capacity of approximately 720,000 gallons.

Since 1997, EA managed the removal of over 60 underground fuel storage tanks (USTs) from the campus and will remove the last two USTs in the spring of 2013.

EA has developed and implemented a “Spill Prevention Control and Countermeasure Plan” (SPCC Plan) to prevent and clean-up oil spills on campus and maintains two Oil Operations Permits with MDE.

EA is responsible for tank/piping integrity testing, Plan and Permit renewals, training, and new tank installations.

**Surface Water Quality and Storm Water Management**

To protect surface water quality and to ensure compliance with State and federal regulations, EA maintains two NPDES Discharge Permits.

1. **State Discharge Permit No. 08-DP-2618**
   Individual Industrial Discharge Permit regulates the discharge of UMD wastewater to surrounding surface waters.

2. **NPDES Phase II General Discharge Permit No. 05-SF-5501**
   covers the discharge of stormwater run-off from land, pavement, rooftops, and construction sites on campus.

• **Sampling:** EA conducts monthly sampling and testing at 13 of the university’s storm water outfalls for the following parameters: total residual chlorine (TRC), oil/grease, temperature, flow rate, pH, copper, nitrogen, and phosphorus.

• **Reporting:** EA prepares and submits quarterly discharge monitoring reports related to the NPDES Individual Permit and an Annual Report for the NPDES Phase II General Discharge Permit to MDE.

• **Inspections:** EA performs monthly illicit discharge inspections and organizes annual stream clean-up efforts along the campus creeks and unnamed tributaries.

**Emergency Spill Response**

EA has the responsibility to respond to all HAZMAT incidents, oil spills, and environmental concerns on campus. The primary role of EA during an incident is to mitigate any potential hazards to human health or the environment. EA collaborates closely with other DES units and emergency response teams, including UM Police Department and Prince George’s County Fire/EMS Departments.

EA personnel responded to 31 spills or incidents in 2012.

For situations that require more resources, EA is the primary point of contact with UMD’s Emergency Response Contractor.
Laboratory Fire Inspections

As part of an increasing emphasis on research safety, a fire inspection program with focus on laboratories was established. Laboratory fire inspections became a primary responsibility of the Senior Deputy Fire Marshal. The number of laboratory fire inspections increased in 2012 as a result of the program.

NFPA 45, Standard on Fire Protection for Laboratories Using Chemicals is part of the State Fire Prevention Code and serves as the primary standard for inspections. Serious laboratory specific issues, including excessive storage of compressed gases, the improper and incompatible storage of chemicals, and electrical hazards accounted for more than half the issues cited.

The more comprehensive inspection program extends to areas in the laboratories that previously have been less scrutinized. As a result, serious hazards have been cited and corrected. For example, several unused lecture size cylinders of poisonous gas were discovered on a bottom shelf behind other items. A 55 gallon drum of highly flammable ethyl alcohol used for dispensing was found in a lab designed only for small quantities.

The program has been instrumental in assisting researchers to be in compliance with the fire code while maintaining their operational needs. It is also an opportunity for fire marshals to develop familiarity with laboratory operations and staff. This becomes very useful for planning response to possible emergencies in the laboratories.

Residential Fire Inspections

The places where people live and sleep are of primary concern. Housing arrangements that receive fire inspections at the university include: 46 traditional style residence halls and on-campus apartments buildings; 14 public-private apartment buildings; 62 graduate apartment addresses; and 21 UMD owned and 13 privately owned Fraternity and Sorority houses. In all, nearly 10,000 rooms are inspected annually.

Additionally, fire drills are conducted twice per year in all residential buildings except graduate apartments. UMD FMO also conducts fire drills for the privately owned University View high rise apartment buildings.
**Plan Review and Construction**

Fire protection engineers in UMD FMO review plans, conduct inspections, and provide occupancy approval for capital projects and campus projects. As part of the UMD Service Center, this AHJ service is provided for capital projects at other USM institutions including Salisbury University, Frostburg State University, UMES, and Bowie State University. In 2012, 270 plans were reviewed and 214 inspections were conducted. Major projects included University House at UMD valued at $7.2 million, the Fine and Performing Arts Center at Bowie State University valued at $64 million and the Frost Center at Frostburg State University valued at $19 million. The total value of projects approved was $137.4 million.

With the completion of a $3 million sprinkler retrofit project at Graduate Hills and Graduate Gardens, all UMD residential occupancies are now protected by sprinkler systems.

**Event Management**

Fire Marshals plan for and attend all major events on campus to assure that life safety objectives are met. They also serve as an integral part of the emergency management leadership team. There were 83 events worked in 2012 accounting for 1225.5 work hours. Event service often requires fire marshals to work at night, on weekends, and during holidays.

**Emergency Management**

**First Aid/CPR/AED**

With training provided by DES instructors, more people in the campus community are now certified in First Aid/CPR/AED. Classes are scheduled upon request, with emphasis on FM and other departments in the division. Several recipients have reported putting the training to use on campus.

**Planning, Exercises & Operations**

DES works together with Department of Public Safety (DPS) to manage a multitude of programs necessary for the university to be prepared for emergencies. Areas of focus include, preparation, mitigation, response, and recovery.

Operation Rad Response brought together 85 participants from 24 university, local, state, and federal departments and agencies to practice response to an incident at the Maryland University Training Reactor. The exercise was held at the Maryland Fire and Rescue Institute (MFRI) Incident Command Simulation Center. The complex exercise required months of planning lead by DES, DPS, and MFRI. The planning group included the Vice President for Student Affairs, City of College Park, FBI, National Guard, and MDE. Major goals of the exercise were to evaluate communications, incident command, and initiation of the Emergency Operations Center (EOC).

The EOC was opened for Super Storm Sandy. Nine personnel from DES joined representatives from several other university departments and the City of College Park to provide continuous staffing in the EOC and in the field.

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**PEOPLE TRAINED IN FIRST AID/CPR/AED**

<table>
<thead>
<tr>
<th>Year</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>112</td>
<td>75</td>
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UMD, government, and emergency response officials handle a simulated incident at MFRI. Deputy Fire Marshal provides CPR instruction for Facilities Management.
The Office of Research Safety (ORS) was formed to bring together the Biological Safety, Laboratory Safety, and Radiation Safety groups. ORS supports the UMD research community by helping researchers manage the inherent risks of their research. Research often involves multiple health and safety concerns and regulatory and compliance requirements. By combining the efforts and expertise of the Research Safety team members, we have created a seamless and comprehensive resource for researchers, enabling them to achieve their goals in a safe manner.

An example of this can be seen in the team effort used to help Dr. Donald Milton manage the hazards associated with his novel influenza aerosol generator and particle collector apparatus, dubbed the Gesundheit-II. Hazards associated with this research include potential exposure to a currently circulating strain of influenza virus, a BSL2 agent, and exposure to ultraviolet (UV) light. Research Safety team members with expertise in biological, laboratory, and radiation safety worked together to review the experimental apparatus, the ventilation requirements, the UV generator and the Standard Operating Procedures (SOPs). Our goal was to ensure that the hazards were contained and the research could be conducted in a safe manner.

Another example was the review of the chemical and biological hazards associated with a project proposed for the Bioprocess Scale-Up Facility. The project involved Clostridium perfringens, a pathogenic bacterium that is a common cause of food poisoning, and formaldehyde. Team members with expertise in biological and chemical safety reviewed the SOP for the project and conducted exposure monitoring for formaldehyde during a dry run of the procedure.

Hazard Evaluation and Risk Assessment

Assisting researchers in identifying hazards and assessing risks associated with their research is a key resource provided by ORS. In addition to the examples provided above, members of the Research Safety team evaluated the risks associated with research projects ranging from flying robots, ozone generation during irradiator operation, exposure to selenium from the use of this material in a thermal evaporator to the potential reactivity hazards from a proposed method to dissolve rock samples.

Laboratory Inspections

Members of the Research Safety team routinely visit and inspect the university’s approximately 385 research laboratories.

In 2012, Radiation Safety staff conducted 239 quarterly inspections of all areas where radioactive materials are used. The staff take this opportunity to meet with Principal Investigators (PIs) and researchers to discuss handling procedures to ensure personnel safety and compliance with the university’s radioactive material license conditions and regulations. Radiation level measurements and contamination surveys are performed as a means to ensure there is no transfer of radioactive material into unwanted areas and to maintain exposure to radiation and radioactive materials.
to As Low as Reasonably Achievable (ALARA) for all individuals on campus.

Biological Safety staff conducted site visits in 2012 for 55 PIs whose research involves infectious agents or genetically modified organisms. Site visits provide the opportunity for the Biosafety staff to meet with PIs and researchers in an informational atmosphere to discuss laboratory safety. Each year the Biosafety staff use these visits to focus on a different topic of interest, such as the requirements for shipping infectious agents, post exposure procedures or dual-use research of concern.

In 2012, Laboratory Safety staff conducted 86 inspections of laboratories where work with hazardous materials is performed. Laboratory safety inspection procedures were revised in 2012 to move from checklist based inspections to a more interactive and investigative format. The purpose of the inspections is to ensure research is performed in a safe manner, reducing the chance of serious accidents and injuries. During the inspections, staff members review Lab-Specific Training documentation, SOPs and chemical handling, use and storage practices. Staff members use the inspections as an opportunity to discuss the resources the Research Safety group can provide to assist PIs in managing safety in their labs.

**Successful Radioactive Material License Inspection**

In 2012, the university successfully passed a routine inspection by the State of Maryland. Two inspectors from the Radiological Health Program visited the campus and thoroughly reviewed compliance with applicable regulations for handling radioactive material. This included a walk-through inspection and interview with researchers handling radioactive material. No violations were identified.

**Training**

ORS offers 20 classroom and 17 online training courses for researchers and support staff who work in or enter laboratories as part of their jobs. Support staff include housekeepers and other facilities personnel. Training programs for researchers cover a wide variety of topics in the areas of biological, chemical and radiation safety. Training programs range from comprehensive training such as New Laboratory Researcher Training and Safety Orientation for Graduate and Teaching Assistants, to more specialized programs such as BSL3 Training, Select Agent Training, Laser Safety, X-Ray Radiation Training and Safe Handling and Use of Cryogenic Liquids. Training programs for support staff include Bloodborne Pathogens, Laboratory Safety Awareness for FM, and Radiation Safety Awareness for Support Staff.

Laboratory Safety Awareness for FM was a new training program developed in 2012 to provide an overview of the types of hazards found in laboratories and safe work practices to follow when entering and working in laboratories. This program complements the existing Radiation Safety Awareness and Bloodborne Pathogens training programs.

In 2012, the ORS trained a total of 3,855 researchers and support staff, an increase of 35% from 2010.
The Office of Risk Management (ORM) provides support and consultation regarding the risk naturally encountered in the course of research, service, and teaching mission of the university. In 2012 the Risk Management group, which had primary responsibility for risk transfer (insurance and contractual), and the Occupational Safety & Health group, which worked primarily on loss control, were merged to form ORM. The mission of ORM is to reduce the chance and severity of loss to the university’s financial and reputational assets, and physical and human resources through both traditional and progressive forms of risk management.

Enterprise Risk Management
ORM was charged with beginning the process of developing an Enterprise Risk Management (ERM) framework for UMD. The process was designed to increase participant’s awareness and knowledge of ERM, result in the identification and assessment of institutional risks, and facilitate discussion of those risks across organizational boundaries. An initial risk profile was developed in collaboration with 52 senior managers representing major functional areas from across the campus. The process included an orientation session, electronic surveys, and facilitated workshops to rank risks.

Risk Transfer — Insurance and Contracts
Property and liability coverage for UMD is provided primarily through the State Insurance Program administered by the Treasurer’s Office. In 2012, a total of 182 claims were processed. This included 125 auto, 25 tort, and 30 property claims.

In addition to coverage provided through the state, ORM:
- Coordinated additional coverage for more than 40 art loans from other institutions;
- Secured crop insurance for Prince George’s and Queen Anne’s Research Farms;
- Assisted in developing the Request for Proposal (RFP) and selecting the provider for an International Travel Medical Insurance Policy as part of the Study Abroad Risk Management Committee; and,
- Processed over 100 certificates of insurance.

ORM works closely with procurement and other campus stakeholders to review contract provisions relating to insurance, waivers of rights including subrogation, additional insured status, liability limitations or waivers, and indemnification obligations. In 2012 more than 50 contracts, agreements, Memoranda of Understandings (MOUs) or waivers for contract and lease language were reviewed.

Risk Reviews — Campus Events and Study Abroad
In 2012, ORM reviewed more than 300 proposed student activities and conducted risk assessments of numerous education abroad, alternative break and service learning proposals for travel abroad programs. Reviews focus on ensuring appropriate insurance and indemnification requirements are in place as well as identifying high or unique hazard situations requiring additional controls.

Campus activities involving minors, such as summer camps, come with a unique set of risks for UMD. To assist with the management of these risks, ORM is currently managing a summer camps background check program. Additional efforts included co-chairing an ad-hoc committee on Managing Minors that identified recommendations and a proposed policy related to minors.

Training
The Occupational Safety & Health group (OSH) provides training on numerous topics as well as helping departments develop effective training management systems. In 2012 the emphasis was on the Globally Harmonized System for safety data sheets and container respirator fit testing.
labels as regulatory changes required retraining of the campus population. An online refresher course for Respiratory Protection was also introduced in 2012.

The DES Safety Manager worked with FM staff and leadership to develop a comprehensive training manual to provide guidance to FM supervisors. In a collaborative effort between DES and FM, a training plan was developed for each employee in the department.

Overall, OSH provided training to 2,396 faculty, students, and staff for a total of 5,789 training hours.

**Campus-Wide Facilities Improvements “OSH Modification”**

OSH staff coordinates with FM to identify and correct safety deficiencies on campus. Completed projects include:

- Repairs to multiple old fume hoods involving safety repairs and flow improvements;
- Installation of new laboratory fume hoods to replace old, obsolete fume hoods; and,
- Upgrade of 10,000 gallon propane tank at MFRI location in Upper Eastern Shore.

**Program Management**

A new Crain & Hoist program was created in 2012. Seven existing Safety & Health Programs were reviewed and updated for the 2012 CY, including Fall Protection, Forklift Safety, Hazard Communication, Hearing Conservation, Lead Management, Lockout/Tagout and Personal Protective Equipment (PPE).

FM employees have been provided with PPE “kits” they require for the energized portion of the electrical work they perform, including arc rated clothing and face shields. DES is providing support with PPE hazard assessments for specific departments within Operations and Maintenance.

**Worker’s Compensation and Targeted Loss Control**

ORM processed and managed 546 Worker’s Compensation claims during 2012. Claim data to identify the most common causes of these injuries or accidents was analyzed and presented to client populations along with recommendations for targeting injury reduction efforts. This effort resulted in an increased emphasis on ergonomics. Evaluation and recommendation of ergonomically designed furniture and on-site workstation equipment has been a major focus. This initiative will be expanded in the coming year to include ergonomic evaluations and Job Safety Analyses for our staff populations most affected by the events or incidents identified by our claim analysis.

**Ongoing Needs and Challenges**

- **Incident Reporting and Investigation:** A major focus area for 2013 will be the rollout of our Incident Report Form and Investigation Program. While major incidents are investigated, there is much information to be gained by analyzing any accidents for the basic or “root” causes which, if corrected, can prevent future incidents.

- **Safety Culture within FM:** OSH will be working closely with FM to increase the level of engagement of their workforce in the safety effort. The next major step will be a workshop for FM’s leadership to further explain the concept of a positive safety culture and their role in achieving it.

- **Targeted Loss Control:** OSH has been working with customer populations to identify and solve safety deficiencies identified through incident investigation or analyses, Job Safety Analyses and other observations. A major initiative is the empowerment of trade supervision to identify and solve safety issues.
The Office of Sustainability (OS) is responsible for facilitating campus-wide sustainability initiatives in support of the President’s Climate Commitment, environmental performance, and the university’s strategic commitment to become a model of a green university.

OS educates, provides tools, and facilitates action from students, staff and faculty. The unit partners with operating units such as FM, Resident Life, Residential Facilities, Dining Services and the Stamp Student Union on the design, implementation and marketing of campus-wide sustainability focused programs.

OS develops programs that encourage greater awareness of sustainability issues, supports behavior change that improve campus performance, and communicates sustainability matters via print and electronic formats. OS also serves as a member of and provides staffing to the University Sustainability Council.

Outreach & Communications
OS works with individuals, clubs, and organizations to incorporate the principles of sustainability into everyday life. By informing and mobilizing students, staff, and faculty to think and act more sustainably, OS helps build sustainability skills and knowledge through attendance at special events such as Maryland Day and First Look Fair. OS has also developed a campus presence that is highlighted by the Lead, Educate, Act and Facilitate (LEAF) Outreach Team made up of dedicated students who encourage and reward sustainable action. The OS communications team profiles and promotes campus initiatives and success via print and social media vehicles including:

- University sustainability website (www.sustainability.umd.edu);
- Sustainability newsletters (www.sustainability.umd.edu/content/resources/listserv.php);
- SustainableUMD magazine (http://issuu.com/umaryland/docs/sustainableumd_fin2); and,
- Facebook, Twitter and YouTube.

OS also plans and hosts the national Smart and Sustainable Campuses Conference. This professional development event was held in April 2012 and drew over 300 college and university professionals from across North America.

University Sustainability Council
UMD established the University Sustainability Council in 2009 to advise the President on sustainability policy and performance. The Director of OS serves as a permanent member and the Office serves as staff to the Council. In the 2012-2013 academic year, the Council launched 3 new workgroups which are managed by OS staff: Buildings and Energy, Water Use and Watershed, and Sustainability Education.

The work of the Buildings and Energy workgroup resulted in the adoption of policy recommendations by the Council. These new policies, when accepted by the President, will reduce campus energy consumption by 20% by 2020 in all existing buildings; and establish a net zero carbon emission standard for new construction. The Water Use and Watershed and Education workgroups met throughout the year and continue to develop their recommendations.

The Council approved the disbursement of $250,000 from the University Sustainability Fund. The Fund, created by an undergraduate student fee, supports projects that promote environmental sustainability and positively impact and enhance the student experience. Major projects funded in 2012-2013 include:

Student interns promote sustainable actions across campus and in our community.
Installation of a new green roof at the Stamp Student Union;

Development of a new Hybrid Electric and Plug-In Hybrid Electric Vehicles Educational Laboratory in the Department of Engineering;

LED lighting upgrades in Clarice Smith Center Performing Arts Center’s theatres;

An old refrigerator retirement and replacement program; and,

Installation of over 60 new water bottle filling stations.

Program Development

To further sustainable practices and behaviors on campus, OS has managed or participated in several initiatives including:

• The Green Office Program — a voluntary effort that recognizes and rewards offices for “going green.” The program provides training, 3 levels of certification, incentives and tools for participating offices. To date, nearly 150 offices are program participants.

• Development of a “Smart Labs” program — modeled after the Green Office Program. OS, in partnership with Research Safety and a campus-wide workgroup, are developing a certification program that enhances safe and sustainable practices within laboratories.

• Construction waste and debris recycling program. OS worked with FM to review current management practices. A student intern team conducted research that led to new waste management practices. Nearly 800 tons per year of construction and demolition waste is now being recycled and no longer disposed in the sanitary landfill.

• The Chesapeake Project — a two-day workshop designed to integrate sustainability issues into the curriculum. This faculty workshop, now in its 4th year, facilitates and supports the integration of sustainability issues/topics into course curricula. To date, 115 faculty have attended, and more than 120 courses have been revised.

Measurement & Performance

A key function of OS is measuring and reporting on UMD’s environmental performance. OS is responsible for conducting the annual campus greenhouse gas inventory; establishing and measuring annual performance metrics and reporting campus performance to external rating organizations including the Princeton Review, Sierra Club and the Association for the Advancement of Sustainability in Higher Education (AASHE). OS prepares the Sustainability Progress Report in the fall of each year (www.sustainability.umd.edu/documents/Reports/2012%20University%20of%20Maryland%20Campus%20Sustainability%20Progress%20Report-Final.pdf) and is currently analyzing the university’s performance under the national Sustainability Tracking and Report System (STARS) which is a national sustainability metric and rating system for higher education.