

ENVIRONMENTAL HEALTH AND SAFETY DEPARTMENT

Please detail the responsibilities of the department.

At the University of South Carolina, the Environmental Health and Safety's (EH&S) mission is to provide health and safety services to the University community through technical support, information and training programs, consulting services, periodic auditing of health and safety practices and regulatory compliance. Areas of expertise in the department include general safety, chemical safety, radiation safety, bio-safety and fire safety.

How many employees are in the department?

17 (as of Spring 2005)

Please provide the name(s) of individuals in the department that are involved with decisions regarding environmental issues concerning the department.

Thomas Syfert (tsyfert@sc.edu) is the director of the EH&S department.

Please list future plans/goals regarding environmental issues.

Each departmental activity is examined at least yearly and rated for its impact on the environment and its impact on health and safety. Departmental objectives and targets are developed from the rating of the aspects and progress toward meeting the objectives and targets are monitored by the EMS Core group on a monthly basis.

Survey 2003-2004

Please answer the following questions as completely as possible. They are intended to assist the Environmental Advisory Committee (EAC) with assessing the status and progress of the University's environmental policy. Feel free to add additional comments, explanations, or data where relevant.

1. Does the department have an environmental policy and how does it determine the environmental impacts of its processes and/or services?

EH&S has developed an environmental management system (EMS) and was certified to the ISO 14001 International Standard in August, 2002. This standard provides a framework for an environmental management system and allows an organization to identify and manage potential impacts to the environment from its activities. In the development of this program, health & safety impacts were also included in the management plan. This year, risk management impacts are also being integrated into the system. The department is required to set objectives and targets to address problems and follow through on established action plans.

2. How does the department handle environmental problems and/or emergencies?

Please see answer for #1

Hazardous Waste

1. What kind of hazardous waste does the University generate and what are the sources?
The teaching and academic research laboratories generate waste organic solvents, out-dated reagents, and research samples.

Waste paint, and paint related waste products, are generated by the paint shops. PCB and non-PCB contaminated wastes are generated by the Energy Distribution Services and the College of Engineering.

The USC community generates photographic chemicals and Nitrocellulose stock films.

2. How much hazardous waste is generated annually?
In 2004, the University generated 18,650 pounds of hazardous waste.
3. Where and how is hazardous waste stored?
In a secured facility located on campus.
4. How and where is hazardous waste disposed?
The waste is disposed of through a state contact with Pollution Control Industries of Memphis, TN.
5. How much is recycled?
Our goal for 2004 was to recycle 10% of the chemicals within the USC system. However, due to a turnover in the hazardous waste position and lack of communication about what chemicals were available within the Department of Chemistry, we fell short of this goal and only a minimum amount of chemicals were recycled.
6. What was the cost of hazardous waste disposal in 2003-2004?
For 2004 - \$52,141.
7. Has the department taken steps to minimize the quantity of hazardous substances used and waste generated on campus?
We continue to encourage the use of chemicals in micro-scale amounts for experiments, purchasing only amounts that can be reasonably used and recycling.
8. Is the University inspected by an outside source for hazardous waste compliance? Has the University ever been cited for hazardous waste violations?
SC DHEC is responsible for conducting inspections. There were no violations in 2004.
9. Has the University ever experienced health and safety problems or emergencies from the use, transport, and storage of hazardous waste?
There were no problems or emergencies in 2004.

Radioactive Waste

1. What kind of radioactive waste does the University generate and what are the sources?
Ranges from low level to high level. Sources include: Biology, Chemistry, Physics, Geology, Engineering, Psychology, Pharmacology, Physiology, Neuroscience, Pathology, Microbiology, Cell & Developmental Biology & Anatomy,

**Endocrinology, OBGYN, Environmental Health, Physical Education,
Pharmaceutical Sciences**

2. How much radioactive waste is generated annually, and how has this changed since 2000?
For 2004, 302 radioactive shipments were received. Researchers generated 120 cubic feet of solid waste (compacted).
3. Where and how is radioactive waste stored?
In a designated storage room on campus.
4. How and where is radioactive waste disposed?
We use a waste broker (currently Bionomics, Inc.). The broker removes solid waste, hazardous liquid bulk waste, scintillation waste and radioactive animal carcasses. The solid waste is sent to a facility in Tennessee where it is super-compacted before being sent to the low level waste site in Barnwell, S.C. The liquid hazardous bulk waste and the non-hazardous scintillation become part of the fuel mixture for cement kilns.
5. How much is landfilled? **All of the solids are landfilled.** incinerated? **All of the bulk-hazardous liquids and the scintillation fluids are incinerated.**
6. What was the cost of radioactive waste disposal in 2003-2004?
Radioactive waste costs were approximately \$12,907.
7. Has the department taken steps to minimize the quantity of radioactive substances used and waste generated on campus?
Proposals have been made to the administration to establish a decay-in-storage program for solid radioactive waste. However, since the volume of solid radioactive waste has decreased over the past few years, it appears that this approach is no longer financially feasible.
8. Is the University inspected by an outside source for radioactive waste compliance? Has the University ever been cited for hazardous waste violations?
SC DHEC is responsible for conduction inspections. There were no violations in 2004.
9. Has the University ever experienced health and safety problems or emergencies from the use, transport, and storage of radioactive waste?
There were no problems or emergencies in 2004.
10. Does the University have an on-site radioactive waste incinerator?
USC does not have an on-site incinerator.

Infectious Waste

1. What kind of infectious waste does the University generate and what are the sources?
Facilities that generate infectious waste on the Columbia campus are: Biology, Chemistry, the Thompson Student Health Center, Athletics, Animal Resources, Psychology, and the School of Medicine.
49 % of the waste was preserved and non-preserved animal carcasses, which are not classified as infectious waste, but shipped off campus to be incinerated per USDA regulations.
2. How much infectious waste is generated annually?
For 2004 - 16,677 pounds
3. Where and how is infectious waste stored?
In an outside cooler prior to pick-up.
4. How and where is infectious waste disposed?
USC has a contract with Stericycle, Inc., a medical waste disposal company. The waste is picked up weekly and shipped to be incinerated. Some of the waste generated on campus is treated on campus by steam sterilization or liquid disinfecting. The treated waste is not infectious and is landfilled.
5. How much is landfilled? **25%** incinerated? **75%**
6. What was the cost of infectious waste disposal in 2003-2004?
\$5,837 for calendar year 2004
7. Has the department taken steps to minimize the quantity of infectious substances used and waste generated on campus?
No
8. Is the University inspected by an outside source for infectious waste compliance purposes? Has the University ever been cited for hazardous waste violations?
SC DHEC is responsible for conduction inspections. There were no violations in 2004.
9. Has the University ever experienced health and safety problems or emergencies from the use, transport, and storage of infectious waste?
There were no problems or emergencies in 2004.

Workplace Environment

1. What steps has the department taken to address indoor air quality issues on campus? (mold, mold spores, migrating chemical vapors).
Most indoor air quality problems on campus are a result of insufficient amounts of fresh air delivered to the occupied space. The University utilizes many buildings with older air handling systems. Examples of common pollutants include mold,

mold spores, and migrating chemical vapors in buildings where research is conducted.

All IAQ complaints are investigated.

2. Have workers or students complained of health problems potentially due to poor indoor air quality? If so, how are these complaints handled?
Yes, when a complaint is received an assessment of the area is conducted. Following the assessment, recommendations are made on how the issue might be mediated and/or improved.
3. What is the progress of the asbestos abatement program on campus?
Facilities Management has an on-site asbestos abatement team. This group is capable of removing relatively small quantities of asbestos material and conducting maintenance where asbestos can possibly be disturbed. Currently, asbestos is being abated as required prior to major construction/renovation projects where asbestos-containing materials may be disturbed. More information on asbestos abatement can be obtained through Facilities Management.
4. Is asbestos still present in some buildings on campus?
Yes
5. Are seminars conducted on art safety for students? **Yes** For faculty? **Yes**
6. What is the quality of the campus water?
The University obtains its water from the city of Columbia. Columbia's water is rated "excellent." Facilities where the water exceeds the safe drinking water standard are supplied with another potable water source (i.e. bottled water).
7. Does the department receive complaints about water quality? If so, please provide further explanation of these complaints.
Yes, these complaints are handled in the same manner as other complaints – assessment and recommendations for improvement.

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