



# notes

## ENVIRONMENTAL HEALTH and SAFETY

### EHS 30th Anniversary

On July 1, EHS celebrated its 30th anniversary. Instead of having formal celebration activities as we did five years ago, we are devoting this newsletter to a review of some key events and regulatory changes that occurred in the past five years. If you think nothing much ever changes in Environmental Health and Safety, this newsletter should change your mind.

In addition to the items we describe elsewhere in the newsletter, there have been some fairly significant on-going activities. One is corrective action under the EPA's hazardous waste program. EHS has tried to modify management practices to eliminate the need for a hazardous waste storage permit; however, before we can fully terminate the permit we have to complete extensive studies of all of the campus solid waste management units that ever existed to demonstrate that there are no hazardous wastes present that could cause health or environmental problems.

Also on the environmental front, EHS has been working actively with the City and County on storm water issues. In addition to having a joint storm water permit, we have been coordinating activities to help the Missouri Department of Natural Resources develop an appropriate management strategy for Hinkson Creek through the TMDL program.

Though emergency preparedness is mentioned in one of the articles, what isn't mentioned is that

in September 2008, EHS helped MU host a highly successful hazardous materials drill that involved emergency responders from local police and fire departments all the way up to the National Guard.

One last example is the Regional Biocontainment Laboratory. This facility greatly enhances MU's ability to attract grants to work with a variety of highly regulated biological agents. The security and regulatory requirements are significant. EHS has worked with research faculty and the building staff to get this highly specialized building up and running.

So, there is seldom a dull moment at EHS. If any of our staff ever feel that way, I just tell them to wait a few hours and things will change!

**Peter Ashbrook**  
Director

#### In This Issue

EHS 30th Anniversary	1
MU Smoking Policy	2
Discovery Ridge	2
MSDSOnline	2
Fire Factor Adds Live Room Burn	2
Fire Safety Reporting Required in 2010	3
ER Sign Project	3
Bicycles	3
Emergency Preparedness	3
Biosafety Program	4
Novel H1N1 Influenza	4
Select Agents	4
Campus Co-60 Irradiator Deactivation	4
Laser Program	5
Decommissioning	5
Consultant Helps Reduce Costs	5
EHS Staff Making a Difference	5
Schweitzer Explosion	6

## MU Smoking Policy

In the summer of 2006, Vice Chancellor Jackie Jones appointed an ad hoc Smoking Policy Task Force to review the campus smoking policy and recommend changes, if appropriate. Recent changes in smoking policy at University Hospital and in the City of Columbia made this an especially good time to review the campus smoking policy. The committee collected data from other schools, surveyed campus attitudes, and held some forums during the course of its work. The campus adopted an updated policy in January 2009 that banned smoking from indoor areas, placed restrictions on outdoor locations where smoking is permitted, and adopted a goal of being smoke free by July 2014.

EHS was represented on the Smoking Policy Task Force. In addition, EHS has had a lead role in responding to smoking complaints. When EHS receives complaints, we typically work with a representative from Campus Facilities and the Building Coordinator to identify arrangements that can be made to address the issue.

## Discovery Ridge

In 2006, EHS was asked to provide consultative assistance on environmental issues for a major new undertaking by the University to develop a research park on a portion of the South Farms property. Discovery Ridge presented many new challenges to EHS including the need for an environmental assessment, a major land disturbance permit, and how to address MU development that includes private businesses. Complicating the project was the need to manage storm water in the sensitive Gans Creek watershed, without clear guidance on methods to comply with these still evolving regulations. As the project proceeded, it presented an opportunity to develop a partnership between EHS and UM System, which was managing the development. Discovery Ridge is now poised to bring in premier private research developments that can draw on the strengths of the University.

## MSDSOnline

Material Safety Data Sheets (MSDSs), as conceived by OSHA, are documents designed to inform workers about the hazards of chemicals and chemical-containing products. Generally MSDSs are updated when better or more recent information becomes available. But the difficulty increases in managing paper copies of these documents as the number of materials you work with increase. EHS looked to find an electronic solution to the pitfalls of keeping MSDSs up-to-date and purchased a third-party solution: MSDSOnline.

The product retains the concept of keeping binders of MSDSs but automates the process of making sure the most recent MSDSs are available when you open your electronic binder. EHS has found the software is best for those using commercial or specialized materials which may be difficult to distinguish one formulation from another, as often occurs with the skilled trades or in medical facilities. While EHS can set up an "e-binder" for any department, most research departments have chosen to acquire MSDSs as needed via the manufacturer's website. More information, as well as a portal to the software, is available at <http://ehs.missouri.edu/chem/msdsonline.html>.

## Fire Factor Adds Live Room Burn

Fire Factor was created in 2000 for the purpose of raising student awareness about fire safety and fire prevention. The event is held annually in the heart of campus and features fire trucks, competitions, refreshments, and of course, T-shirts. Beginning in 2008, however, a new and dramatic element was added to the event. A mock bedroom was constructed by local firefighters and set ablaze in the middle of Speakers' Circle. What starts as a small fire in a trash can becomes a roaring inferno in just minutes. The demonstration has proven very effective in demonstrating the speed and deadly power of fire. Fire Factor is scheduled for Wednesday, September 22 at Lowry Mall and a mock room burn is planned at Speakers' Circle.

## **Fire Safety Reporting Required in 2010**

Buried inside the massive Higher Education Opportunity Act of 2008, Congress included a provision requiring colleges and universities to collect and report data on fires in campus housing. MU began tracking such data well before the Act took effect and will publish its first annual report this fall. The purpose of the report is to inform current and prospective students, as well as their parents, of the fire safety programs and policies in place at MU. The annual report is a joint effort of Residential Life, MU Police, and EHS. The report will be available for examination by the public at anytime at the MUPolice offices located in the Virginia Avenue Parking Structure.

## **ER Sign Project**

While many of EHS' accomplishments result in something behind the scenes our readers won't see, the campus-wide Emergency Sign Product is intended to be visible. A multi-year project that began right after our 25th anniversary has resulted in uniform emergency information signs posted on the main entrance door to any hazardous materials use area. The sign not only contains broad information about the hazards with the room (chemical, biological, radioactive and physical) but also contact information for two individuals that can provide more information about that particular space.

Now that the hard work of initial posting is completed, EHS can re-evaluate the initial sign. As our department migrates to an updated, integrated data system, opportunities to evolve the sign to communicate both emergency and safety information in a graphical manner will be explored. While the size and shape of the sign can't change, any data available to EHS can help this evolution to a unified hazard communication sign including potential inclusion of personal protective equipment recommendations. Just as hazard communication never really ends, EHS views this sign project as one designed to be adaptable for the foreseeable future.

## **Bicycles**

In 2006, the City of Columbia received a \$22 million grant from the U.S. Department of Transportation as one of four communities to try to cause a modal shift away from motorized vehicles with a single person. Although the grant is intended to address all types of alternatives, most of the work emphasized encouraging the use of bicycling. Recognizing that MU participation in this effort could have a significant impact on the success of the program, Vice Chancellor Jackie Jones appointed an ad hoc MU Non-motorized Transportation work group, chaired by EHS, to help provide campus input into City efforts and to provide better connections to various campus interests. As a result, the City has added or upgraded trails and intersections in and around campus, and has had a number of promotional campaigns targeted specifically at the campus community.

## **Emergency Preparedness**

Emergency preparedness got a boost, not just at MU but nationwide, due in large part to hurricanes Katrina and Rita in 2005, and the Virginia Tech shootings in 2007. EHS provided a leadership role in preparing a major update to the Campus Emergency Plan in 2007 and in fact had helped prepare a drill with a shooting scenario scheduled for the day after Virginia Tech. It was incredibly sobering to realize that our scenario was a realistic possibility. One result of the shootings was to push forward the implementation of an emergency mass notification system for the University. Although this is provided for and maintained by the University's Systems offices, EHS has had input into the selection of the vendor and testing of the mass notification system. In addition to mass notification, the campus maintains the MU Alert web page (<http://mualert.missouri.edu>), which was used to keep the campus informed about the novel H1N1 influenza.

## Biosafety Program

Recognizing a changing regulatory landscape and that MU had been placing increased focus on life sciences research, in 2006 EHS reorganized to create a new section devoted specifically to Biosafety. In addition to this, MU campus has increased focus and activities on life sciences. The program coverage includes: select agents and toxins, other biohazardous materials, bloodborne pathogens, recombinant DNA, administering the occupational safety and health program for animal care workers, food safety and pool safety. EHS now has four full-time staff members devoted to Biosafety compared with barely more than two FTEs in 2006.

## Novel H1N1 Influenza

In 2006, there was quite a bit of concern in the public health community about a novel form of flu called avian influenza. Most universities and communities, including MU and Boone County, expended significant efforts in developing preparedness plans to address this concern. In April 2009, a novel form of influenza broke out in Mexico; however, it was a form of swine flu rather than avian flu. As predicted by earlier planning models, the flu quickly spread throughout the United States and the world.

MU was fortunate that no confirmed cases of the new H1N1 influenza were confirmed during the spring semester of 2009, and we were able to learn from the experiences at other universities not so fortunate. EHS helped lead campus response actions to the novel influenza in the spring of 2009 through the application of provisions of the MU Emergency Operations Plan and previous pandemic flu planning. Over the summer of 2009, EHS monitored national and international events concerning pandemic flu. When the fall 2009 semester began, MU was prepared with updated guidance to faculty, staff and students about how to prevent and respond to this new flu. Although MU, like everyone else, experienced a flu outbreak during the fall semester, there was little disruption to normal campus activities. By the winter 2010 semester, new flu cases had slowed to a trickle. EHS continues to periodically monitor the H1N1 flu

situation to make sure the campus can take prompt action to address potential issues should there be another wave of cases.

## Select Agents

EHS worked with CDC in 2003 to obtain authorization for MU to possess select agents. However, actual use of select agents did not begin until the fall of 2008. In cooperation with the researchers, EHS helped develop required plans and standard operating procedures for use with research involving select agents. Select agents pose more hazards than most research on campus involving biological materials. The key issues are security, use of proper personal protective equipment, and ensuring containment of the materials. In addition to working with the researchers, EHS has spent considerable time with Campus Facilities personnel to make sure that the ventilation system operates properly.

## Campus Co-60 Irradiator Deactivation

In May 2006, EHS completed the deactivation, moving, and shipping of a Co-60 Irradiator. This unit contained radioactive sources that were covered under a new NRC order to reduce the likelihood of malicious use by terrorists. Had MU not disposed of this irradiator, campus researchers would have been subject to the new "Increased Controls" orders. Such use would have entailed considerable expense to adequately secure and control access to the unit. Compared to other available options, it was not financially desirable to keep the irradiator at MU.

This irradiator deactivation project involved coordination with and collaboration of several departments. The planning, flexibility, and coordination of these departments, allowed this project to proceed to conclusion with no lost time accidents, no injuries, no unnecessary exposures, and most notably with no loss of control or security risk of the sources being used malevolently. The NRC reviewed and inspected against our process and found it satisfactory.



## Laser Program

In 2007, EHS implemented a significant update to its Laser Safety Program. At that time, we issued a new manual, and prepared a web page with several guidance and reference documents to be used by laser users and laser workers. EHS performs training for safe use and initial safety evaluations of lasers. We have already performed several evaluations of class IV and class IIIB lasers, plus we have identified several safe laser use areas and increased the level of safety postings. To assist in the safe use of those types of lasers, we have identified lead laser users and principal investigators for each class IIIB and class IV laser. Work is continuing as the program is still being developed and we are looking to develop a Laser Safety Committee in the future. Please contact EHS if you use or plan to use a class IIIB or class IV laser and have not already had it evaluated for safe use.

## Decommissioning

In the first quarter of 2007 the University was inspected as part of a larger effort and initiative to instruct and inform academic radioactive material license holders about NRC's expectations on the effective decontamination and remediation of laboratory spaces, facilities, and buildings where radioactive materials have been used. Prior to this inspection, MU had been performing activities to be in compliance with those rules as we understood them at the time. In response to this visit from the NRC, EHS revised its decommissioning program to be in compliance with NRC expectations.

In 2009, NRC gained authority to regulate certain additional radioactive materials, such as radium, that had previously been regulated by the State. Therefore the scope and impact of the revised decommissioning program increased significantly over the expectations we learned about in 2007. EHS has been working closely with the NRC to implement these newly understood requirements and NRC has been very complimentary of the changes MU has made.

## Consultant Helps Reduce Costs

The University hired a loss control consultant in 2005 to help reduce injuries that resulted in increased workers' compensation costs. Our efforts focused on the three areas where the most injuries were occurring, including Campus Facilities, Residential Life, and Campus Dining Services. One of the first successful programs was the use of slip-resistant shoes in food preparation areas. Other successful programs included job hazard analysis, supervisor training, and injury review programs. Since the consultant was hired, workers' compensation claims have been reduced by 25 percent, which is equal to about 180 fewer claims per year.

## EHS Staff Making a Difference

EHS employs almost forty talented individuals who attend to all aspects of the University's environmental issues. These employees are also committed to serving their field, the University, and their communities with a great deal of dedication. EHS personnel have served on the boards of national organizations in the fields of chemistry, radiation safety, biosafety, and campus safety and health. Our staff have been members of charitable organizations such as the Lions Club, Kiwanis International, and the Freemasons. They have served on city councils, helped with community hazardous waste collections, and worked with the Partners in Education program. EHS staff have worked to make a difference at MU by volunteering for several standing committees. These committees include the Environmental Affairs and Sustainability committee, the Traffic Appeals committee, and the Campus Safety committee. And recently, EHS staff members have served as chair of the MU Staff Advisory Council and the UM Intercampus Staff Advisory Council, and as the Regional Chair for the UMMU United way campaign. As you can see, our staff are committed to making a difference, not only by keeping MU safe, but by helping out in our community as well.



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## Schweitzer Explosion

The Schweitzer Hall explosion on June 28 is a clear reminder that laboratories can be dangerous places. As a result of the incident and EHS follow up, we wanted to highlight some important concepts.

First, Principal Investigators are responsible for conducting hazard assessments for all of their procedures. These assessments should be reviewed periodically to ensure that they are up to date. As part of the hazard assessment, options for using inherently safer materials, equipment, and processes should be assessed. It is often the case after an accident that the review will uncover a number of steps that could have been taken that would have prevented the accident from occurring.

Second, if you use compressed gases, you should review basic compressed gas safety

practices. If you use flammable gases, review your procedures to make sure that you are taking all appropriate steps to prevent the occurrence of an explosive situation.

Third, all laboratory personnel must pay continuing attention to safety issues. Even the most experienced researchers have accidents.

Last, EHS encourages departments to establish safety committees as another mechanism to enhance laboratory safety and the department's safety culture.

Feel free to contact EHS if you would like assistance in assessing hazards in the laboratory.

*EHS appreciates campus support of environmental and safety issues. If you have any special needs regarding the format of this publication, or have any comments regarding newsletters, training programs or services, please direct your communications to Rebecca Bergfield, Editor at the above address.*