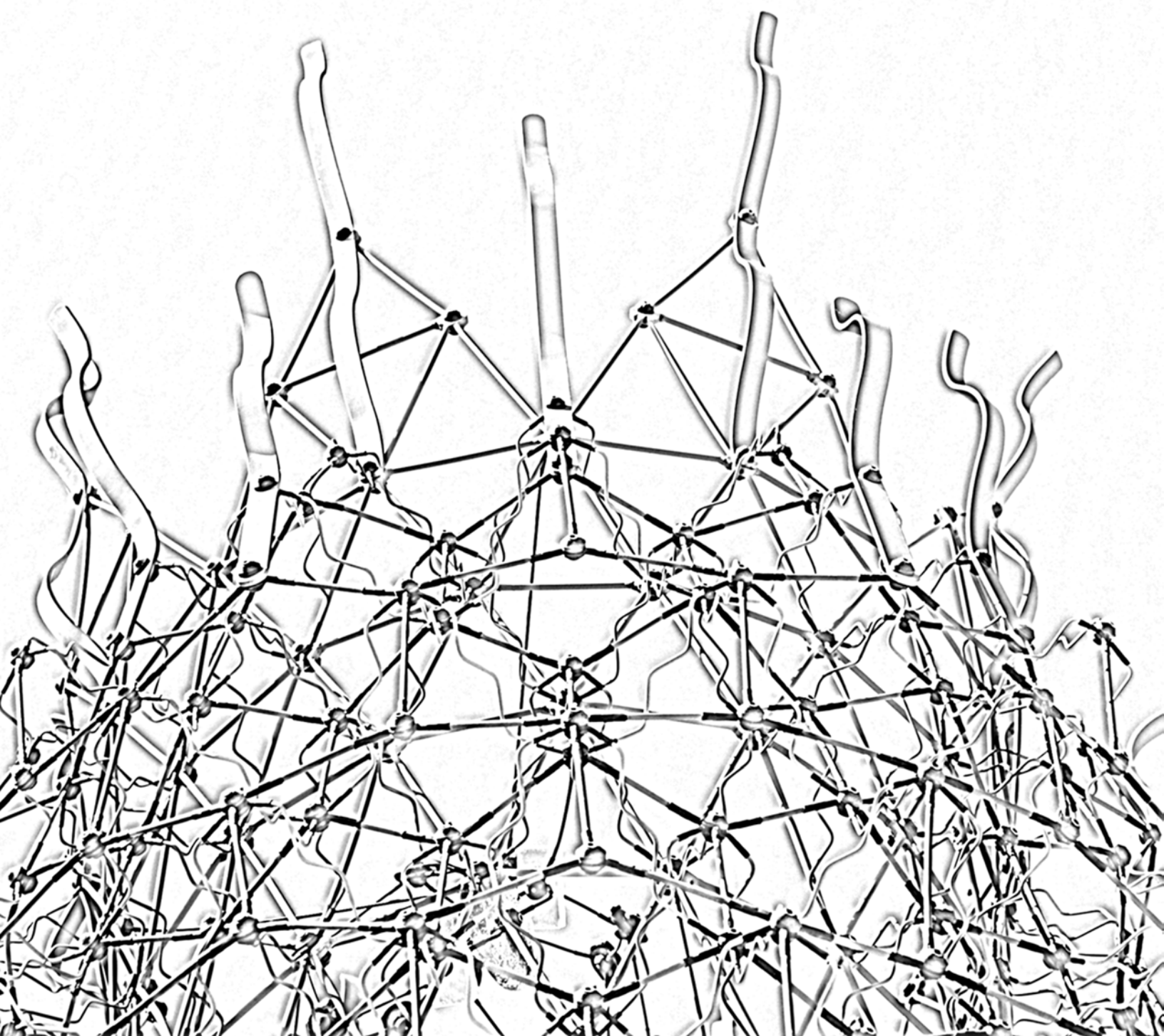


IOWA STATE UNIVERSITY

ENVIRONMENTAL HEALTH AND SAFETY

2013 Annual Report



Connecting YOU to Safety

Welcome to the 2013 Annual Report for Environmental Health and Safety. We hope you like the new format which is designed to connect you to some of our memorable activities. Take a minute to browse this report and let us know what you think. We welcome comments and questions.

To use a sports analogy, we realize that “you are only as good as your last victory.” Rest assured that while we’re proud of our accomplishments, we are equally committed to ensuring continued success in 2014, whether in the classroom, laboratory, shop, residence hall, farm, and all points in between.

Iowa State University is a great place to work, study, learn, and play. With our commitment to provide quality services and knowledgeable staff, EH&S will do its part to help you adventure safely.

- Paul Richmond, Director EH&S



GROWING CAMPUS RELATIONSHIPS

EH&S strives to engage ISU students, faculty and staff in safety and sustainability. We also learn from our customers every day.



EH&S collaborates with our peers through education, service and shared responsibilities.

EH&S hosts three **Safety Summits** per year that provide a discussion forum on current topics. In 2013, Safety Summit emphasis shifted from laboratories to broader campus issues resulting in participation by more departments including Residence and Facilities Planning and Management.



Another way we stay current on activities and events is by serving on **Iowa State University Professional & Scientific Council**. Being involved in Council helps EH&S to promote a vision for campus safety and listen to our co-workers and clients.

We share responsibilities with other university staff for the implementation of **new systems** such as Quali Accounting, and for the hiring of campus leaders. EH&S employees participated in the Quali Financial System testers group, while others served on University employee search committees.

Interactions with our campus peers provide great opportunities to expand our visibility and grow relationships.



MITIGATING UNSEEN DANGERS

**Radon can pose a health threat to staff and students.
We have the knowledge and tools to protect you.**

Radon is a colorless, odorless, naturally occurring gas found in Iowa soil.

Fortunately, radon can be detected and mitigated. Our team of experts has the knowledge to detect unseen radon dangers and consult on the design and installation of systems to reduce the hazard.

In 2012, preliminary testing determined that some Frederiksen Court student apartments contained elevated levels of radon.

EH&S collaborated with Department of Residence to install radon mitigation systems in existing apartment complexes, and build systems into the new complexes completed in 2013. Testing continued with the placement of 394 additional kits. Evaluation of system effectiveness is on-going.

Additional radon testing occurred at the Knoll, Biorenewables Research Laboratory, Catt Hall, and Childcare at Veterinary Medicine. No levels exceeded the EPA action level at these locations.

Valuable Resource

EH&S staff has always been accessible and willing to provide assistance when requested. We value their collaboration and the specific areas of expertise they provide. They serve as a valuable resource and it is important that we continue our partnership to provide the safest and highest quality living experience for our students and working environment for our employees.

Dave Bunker – Safety Coordinator
Iowa State University Department of Residence

HOPE FOR THE BEST, PREPARE FOR THE WORST

EH&S partners with state and local agencies to coordinate planning and response to disasters and emergencies.



Active Role Within the County

EH&S staff are valuable partners for emergency management processes in Story County. We have worked with EH&S, ISU Athletics and ISU Police to have greater visibility of emergency issues during Cyclone home football games which is one of the largest public gathering events in all of Story County. EH&S not only focuses on planning and response for the University but their role within the County as a whole relating to disaster and emergency management.

Keith Morgan - Emergency Management Coordinator
Story County Emergency Management

Disaster and emergency planning play a critical role in preventing or reducing loss of life and property at Iowa State University.

In addition to planning for campus emergencies, the university shares its resources, including EH&S knowledge and training, with the City of Ames, Story and Boone counties, and the state of Iowa.





ELEMENTS OF SUCCESS

Fostering a campus safety culture.

EH&S enhances ISU students' safety knowledge through special events such as Campus Fire Safety Day, interaction via social media sites, and mentoring outside the classroom.

Campus Fire Safety Day is a collaborative effort between EH&S and the Ames Fire Department teaching students about fire safety and providing hands-on fire extinguisher training.

Enhancing Safety Knowledge



**CAMPUS FIRE
SAFETY DAY**



**SCIENCE OF THE
ENVIRONMENT AND
SUSTAINABLE SYSTEMS
LEARNING COMMUNITY**

EH&S staff supports and mentors students gathering data from eight **campus water monitoring** sites. The purpose? To monitor if water quality is impacted as it moves through the ISU campus. We provide sampling kits to the students and instruct them on proper and safe water sampling techniques. This program provides an excellent opportunity for students to interact and learn from professionals in their field of study.

CELEBRATE GOOD TIMES, SAFELY

Ensuring CY-lebrations and events go off without a hitch.



EH&S' safety responsibilities are not limited to faculty and staff. Protecting students has always been, and will always be, part of our mission.

Critical to students, of course, is having a good time and living the college experience. Our safety and health experts guide students past potential dangers, whether it's building a 30 foot high Homecoming display, driving a float in the VEISHA parade or busting a bronc for Ol' Cy.

Since 1912, **Homecoming** has been a time when alumni return to ISU to remember their time on campus. Fraternity and sorority pairings competitively create lawn displays used in skits to entertain alumnus and visitors. To help reduce risk, EH&S offers guidance on potential safety hazards, conducts safety seminars prior to construction, and inspects lawn displays during construction. EH&S also reviews and approves **pyrotechnic displays**.



Each year EH&S assists with **VEISHEA** festivities by inspecting parade and entertainment venues, and assisting law enforcement and emergency responders. Venues are evaluated for crowd management, effective egress and safe staging at entertainment facilities.

Sanctioned by the National Intercollegiate Rodeo Association, and attracting top cowboys and cowgirls throughout the Great Plains Region, the **Cyclone Stampede Rodeo** is a two-day affair held every October at the Cyclone Stampede Arena. To ensure its continued success, EH&S inspects the rodeo facilities and grounds to identify dangers to participants and the audience.



STUDENTS TODAY, PROFESSIONALS TOMORROW

We provide students with career experience, and sometimes even careers...

Student involvement has been a core value of EH&S for over 35 years.

Hundreds of undergrads and interns have included EH&S in their campus experience. Many moved into health and safety careers after graduation. Some liked it so much they stayed with Iowa State University or EH&S. Presently, 20 EH&S staff members are ISU graduates.

EH&S student employees' work experience **complements their education**. In addition to acquiring degree related technical skills, they also learn life skills such as time management and professional etiquette. Regardless of the career they decide to pursue, our students will have knowledge of workplace safety regulations and requirements.

While working at EH&S, students receive **mentoring toward their career goals** which provides them with vital résumé material, recognition of their talents and skills and a foundation for professional growth.

In 2013, 17 students from 10 disciplines worked or interned with EH&S.

Great Career

I started working at EH&S as a fire safety student in September, 1985. I was a sophomore. When help was needed in hazardous waste I started picking up chemicals on campus. At the time I could barely spell Benzene. In the fall of 1986 a full time position opened and I was offered the job. Throughout the years EH&S staff mentored and supported me in all of my educational and professional goals. I've had a great career; one I never expected. I always think how lucky I was to pull that EH&S student job card off the board in Beardshear Hall while waiting in line for financial aid.

Sean Whalen, then student, now Manager, EH&S Environmental Programs
B.S., M.A., Iowa State University
Certified Safety Professional
Certified Hazardous Materials Manager

UP TO THE CHALLENGE

Research growth requires dedicated support and innovative solutions.



As research projects increase, so does the need for EH&S services.

We met the challenges head on in 2013, a year in which we incinerated the most material ever, collected the most chemical containers in over a decade, grew Animal Biosafety Level 3 (ABSL3) space by over 2,200 square feet, and created an innovative program for Select Agent security.

 <p>MATERIAL</p> <p>328,000 pounds incinerated</p>	 <p>GLASS AND SCRAP METAL</p> <p>2,000 pounds recycled</p>	 <p>CHEMICALS</p> <p>4,600 containers removed</p>
--	--	--

Incineration saved Iowa State University over \$137,000 when compared to the cost of off-site disposal.

EH&S worked together with faculty and Facilities Planning and Management to open a **new ABSL3 facility**. This \$3.8 million investment added 2,223 ft² of high-containment space for emerging infectious disease research.

EH&S led a collaborative effort with Human Resources, University Counsel, Vice President for Research, and the Office for Responsible Research to implement new **Select Agent Tier 1 Suitability** Assessment regulations. This comprehensive program creates a safer community and prevents insider threats from harming people and resources.

Outstanding Team

I would like to say a big "Thank You" to [EH&S] for your help with my research. Without your help we would not have been able to accomplish our research goal. [You] have an outstanding team who is very willing to help out. I applaud your service to the ISU community.

Dr. Walter Hsu, Professor of Biomedical Sciences
Iowa State University



PROVIDING RESOURCES FOR GAME-CHANGERS

Iowa State University has been in the business of knowledge for over 150 years; EH&S aims to honor this tradition.

EH&S is the primary health and safety training resource for staff and students.

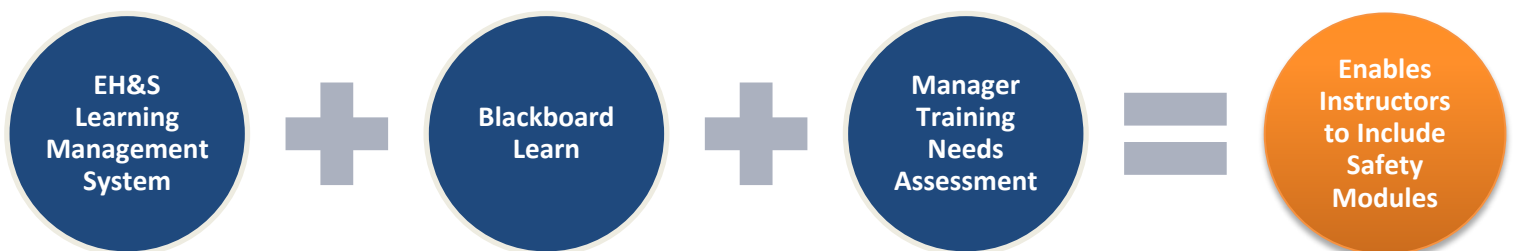
To meet the new OSHA Hazard Communication Standard, the Laboratory Safety Core Concepts and Worker Right-to-Know training courses were revised. A marketing campaign awarded t-shirts for successful completion of the courses. Since the launch of the courses, 1900 users have completed the safety training.

EH&S staff provide resources to educate staff and students in emerging topics, and continue to share their knowledge in other classes as needed, including lectures for:

- Chemistry
- Kinesiology
- Veterinary Microbiology & Preventive Medicine
- Art & Design
- Technology Systems Management
- Psychology

A significant, multi-year project to enhance shop safety on campus has brought together a diverse set of partners to work towards a cutting-edge safety solution.

Creating an online Shop Safety Course with College of Engineering



Reliable and Helpful

EH&S has always been a very reliable and helpful partner in helping my departmental community members in their efforts to work as safely as reasonably possible. The crew at EH&S is responsive, knowledgeable and has always found a way to help us make good choices in our labs. Thanks again for your help!

Dr. Michael (Hogan) Martin - Lecturer and Dept. Safety Contact
Materials Science and Engineering

QUALITY CONNECTIONS ARE STRONG CONNECTIONS

Iowa State University offers exceptional education and research opportunities. Don't just take our word for it, ask our peers.



Accreditation is an assurance that the professionals that serve us have a solid educational foundation and are capable of leading the way in innovation, emerging technologies, and in anticipating the welfare and safety needs of the public.

- Accreditation Board for Engineering and Technology (ABET.org)

University colleges and departments are vetted through **rigorous accreditation programs** to ensure they meet peer group quality standards. While accreditation tends to focus on academic and research metrics, accrediting bodies have begun to include requirements to ensure the safety and health of students, faculty and staff. This is where EH&S connects.

Three Accreditations

AAALAC

Colleges of
Veterinary Medicine
and Human Sciences

Laboratory Animal
Resources

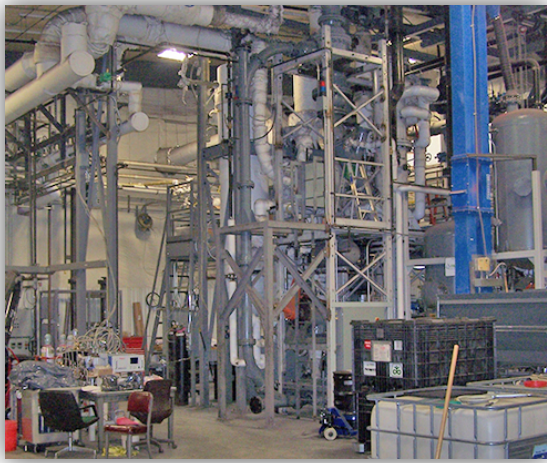
NASAD

College of
Design

ABET

College of
Engineering

We connect with colleges and departments by reviewing the status of their safety programs and facilities, and providing recommendations. In addition, EH&S participation demonstrates to **external review boards** that the university provides the necessary infrastructure to ensure not just maintenance of safety, but continual improvement.



RIVER TO RIVER BUSINESS SOLUTIONS

Partnering with Iowa companies to supply solutions for their EH&S needs.

We partner with the Center for Industrial Research and Service (CIRAS) and coordinate with state agencies to provide training and support services.

Through the CIRAS – EH&S Outreach partnership, we offer training courses and health and safety consultation services such as air monitoring, ergonomics and plan review to businesses and manufacturers across the state of Iowa.

In 2013 we expanded our online **manufacturer's training** course catalog to include:

- Bloodborne Pathogens
- Fire Extinguisher Inspection & Maintenance
- GHS for Manufacturers
- Lockout/Tagout
- Manual Materials Handling
- Underground Storage Tank Class A, B, and C Operators.

EH&S also developed four online modules for Iowa Department of Natural Resources **Incinerator Operator training**. The course is provided in Ames and on-site for industrial clients. The online modules will reduce classroom time, which reduces costs for the university and clients.

EH&S will also continue to manage the **State of Iowa UST Operator Training Data Management System** through 2014. This contract was renewed by the Iowa Comprehensive Petroleum Underground Storage Tank Board.

Invaluable

For the past 4 years EH&S has partnered with CIRAS to supply Iowa manufacturers with solutions to their safety initiatives. The EH&S team has been invaluable in assisting in such areas as indoor air quality, indoor sound testing, assisting clients in reviewing the Safety of their work environment and many other areas. This association has been an integral part of CIRAS's success in meeting our clients' needs.

Jim Poe - Project Manager
Iowa State University Extension and Outreach

NEIGHBORS HELPING NEIGHBORS

We live in the community we serve. Our neighbors look to us to help provide a safe and sustainable home environment.



The health and safety issues experienced by our community are as varied as the expertise available at EH&S.

Whether it's finding a better way to recycle glass, protecting CY-HAWK fans on game day, helping firefighters survive, or securing suspicious substances, EH&S staff are available 24/7/365.

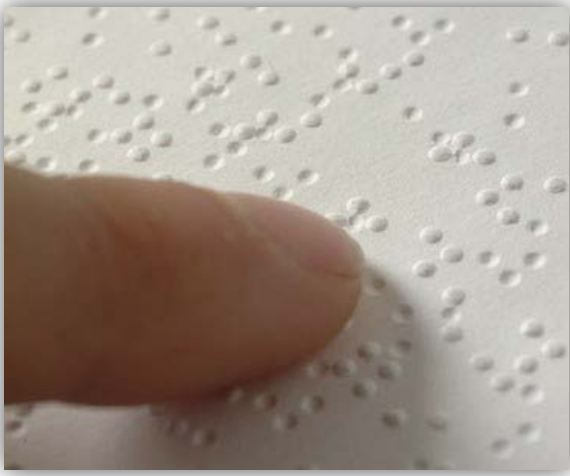
Over 330,000 fans attended Iowa State **football games** in 2013. EH&S was there, along with ISU Police and the Department of Athletics, to help Cyclone fans and rivals have a safe and memorable game day. All fans are neighbors, no matter what color they wear, and we strive to ensure every visitor returns home safe and sound.

Each year, EH&S provides respirator fit testing services, at no cost, to the **Ames Fire Department (AFD)**, saving them over \$1000. The AFD responds to protect lives, homes and our campus; EH&S responds with technical experts to ensure the firefighters get in and out alive.

When two suspicious vials marked "**radioactive**" were found in a Nevada apartment complex, local authorities quickly connected with EH&S to determine that the area was safe and to remove the material for secure disposal. The Iowa Department of Public Health relies on EH&S expertise to manage found and surplus radiological items from across the state.



The Tidy Cats Project provides a safer alternative to laboratory glass collection and handling while diverting several tons of glass per year from the Ames Resource Recovery Plant. See our video [HERE!](#)



KNOWLEDGE WITHOUT BORDERS

EH&S shares its services and expertise in Iowa and beyond.

EH&S staff act locally and think globally.

We assist our sister institutions and local and regional response agencies with projects, planning and participation. We share and gain knowledge by active engagement with peers across the world.

Close to home, EH&S reduces potential asbestos exposure for children and staff by providing project management oversight, exposure monitoring and AHERA 3-year inspections at the Iowa Braille and Sight Saving School in Vinton and the Iowa School for the Deaf in Council Bluffs. Utilizing EH&S' services at **State of Iowa Board of Regent's Institutions** is efficient and cost effective.

Regionally, EH&S supported the **Iowa Homeland Security and Emergency Management Department, Radiological Emergency Response Team** by participating in ten radiological emergency response drills and exercises at nuclear power plants in Iowa and Nebraska. We attended five off site utility meetings and hosted state wide annual radiation safety training for 39 participants.



FEMA



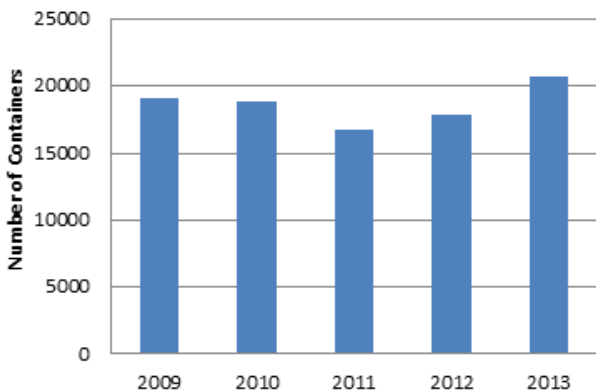
Globally, EH&S staff attends or presents at professional conferences from coast to coast and border to border, and participates in 20 different **professional safety organizations**. Knowledge transfer ensures we are able to provide expertise to not only ISU, but to our neighbors, clients, and peers, no matter the location.

Environmental Health and Safety 2013 ANNUAL REPORT

Just the Facts

A PATHWAY FOR PROPER DISPOSAL

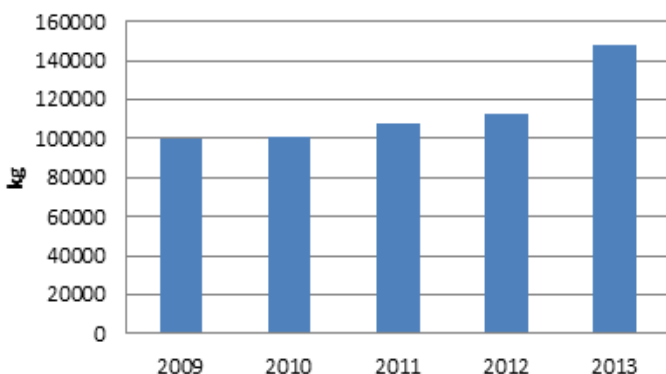
The number of hazardous waste containers hit a **five year high**. Since 2010, over **170,000 fluorescent lamps and 81,000 lbs. of light ballasts** have been recycled.



FIRED UP FOR RESEARCH SECURITY

The Veterinary Medicine Incinerator allows researchers to work with pathogens, unapproved pharmaceuticals and new feed additives without having to arrange for off-site transport and disposal.

Waste incineration increased 31% from 2012 and still saved \$137,000 over off-site disposal.



GET THE "LED" OUT

The lab equipment disposal program supports campus sustainability efforts by

recycling and reusing unwanted equipment when possible, and supports ISU's relationship with the community as a "good neighbor." **Lab equipment recycling increased 58% in 2013.**

KEEPING SOIL IN ITS PLACE

Keeping soil on site and out of our local streams and rivers protects water quality and improves our outdoor experience. In 2013, EH&S completed **551 stormwater inspections** at 14 construction sites, preventing **58 tons of soil** from entering our drinking water.



PEOPLE, ANIMALS, CARE.



Each month, EH&S staff **evaluate approximately 50 Institutional Animal Care and Use Committee protocols** for health and safety concerns such as exposure to chemical, physical, biological, and radiological hazards.

OUT WITH THE OLD

EH&S is celebrating **25 years of oversight** of asbestos abatement projects at State of Iowa Board of Regents Institutions.

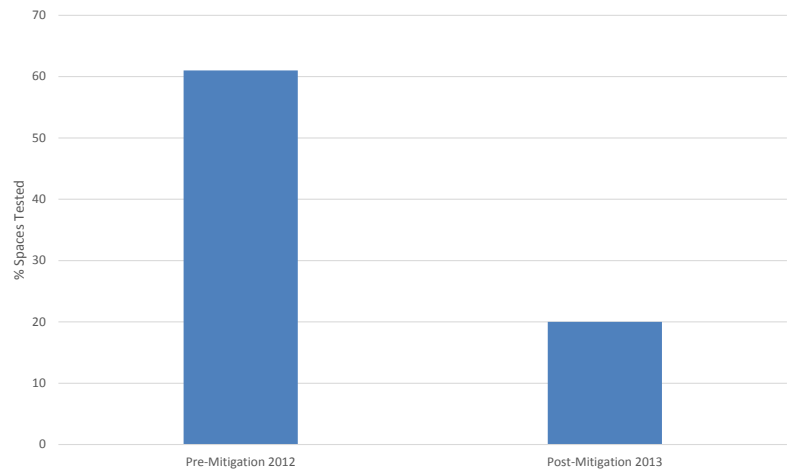


BREAKING THE MOLD

On-site moisture and mold characterization and assessment **streamlines response and project time** needed to return compromised space back to use. EH&S **visited 69 sites** and **saved an estimated \$14,820** over hiring consultants. Our mission? **Clean, safe and dry.**



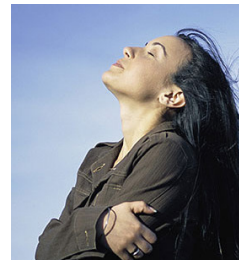
PREVENTING RADON EXPOSURE



In 2012, elevated radon levels were discovered in the Frederiksen Court student apartments. Remediation and post mitigation sampling occurred in 2013. Follow up testing demonstrated that mitigation efforts **significantly decreased radon levels**. To date, **1,045 radon tests have been completed** in Frederiksen Court.

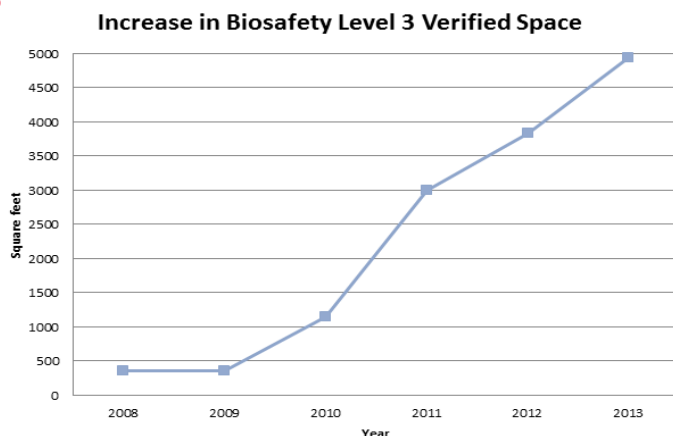
SAFE AIR TO BREATHE

EH&S performed annual **certifications on 1,220 active fume hoods**. Hoods that fail the process are repaired by Facilities Planning and Management and then recertified.



DISEASES DON'T STAND A CHANCE

EH&S **supports emerging disease research** by participating in the design, construction and verification of new high containment space. 2013 continued to show an **increase in Biosafety Level 3 verified space**.

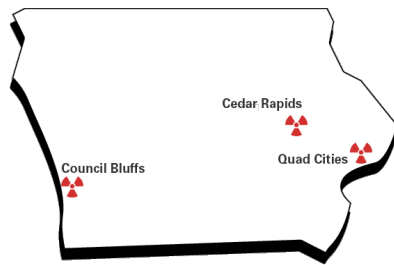


PROTECTING OUR MOST VALUABLE RESOURCE

The Occupational Medicine Program provides medical surveillance services for over **2,250 ISU employees** with potential exposure to job related hazards. In 2013, **1,063 new hazard inventories** were completed by employees. Of these, **631 required job hazard evaluations**. As part of the Association for Assessment and Accreditation of Laboratory Animal Care review, **822 people were identified** who met the requirements for the Animal Activities Hazard.

RAD READY

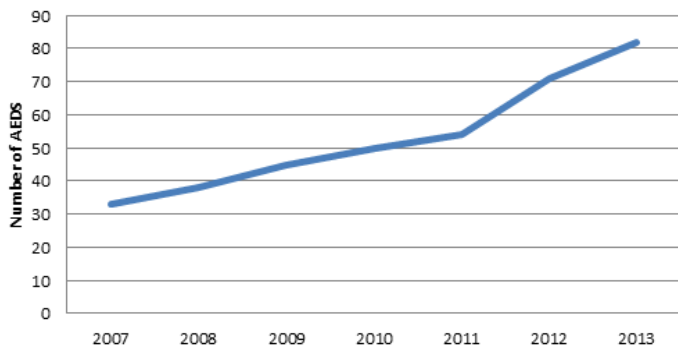
Twelve EH&S staff served the Iowa Homeland Security and Emergency Management



Department by participating in **seven radiological emergency response drills** and **three** Federal Emergency Management Agency or Institute of Nuclear Power Operations graded **exercises**.

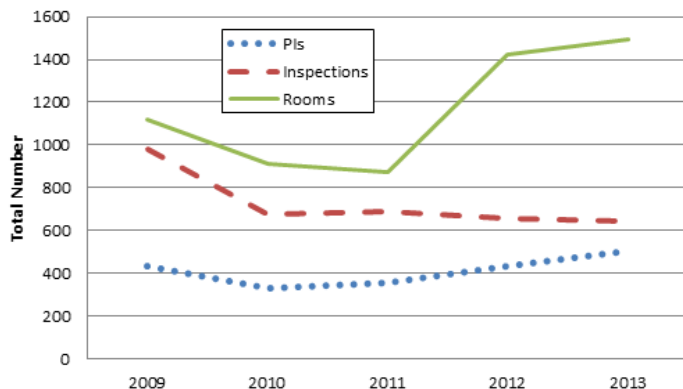
START A HEART, SAVE A LIFE.

Since 2006, **4 lives have been saved** through the use of Automatic External Defibrillators (AED). EH&S staff coordinate the placement and maintenance of **82 AEDs** in campus buildings.



AN EXTRA SET OF EYES

The Laboratory Safety Survey Program was **streamlined** to provide a more focused service to campus personnel. EH&S **visited 98%** of Principal Investigators in 2013.



TAKING INVENTORY, REDUCING HAZARDS

The Chemical Inventory System was **streamlined**, making it **easier** and more **efficient** for campus personnel to submit their workspace chemical inventory.

PROVIDING TOOLS

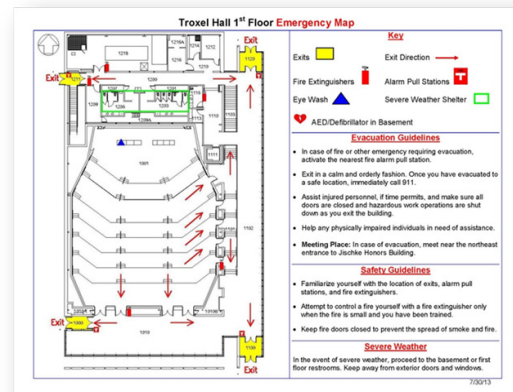
Over **1,200 students and staff** completed the Shop Safety Fundamentals online course developed as part of the Shop Safety Enhancement Learning and Training infrastructure initiative. EH&S also developed



10 tool box talks and **74 equipment data sheets**, all of which are available on the EH&S website.

GIMME SHELTER

Emergency maps are available for more than **130 ISU buildings** on the EH&S website. These maps provide sheltering and evacuation information as well as alarm pull station and fire extinguisher locations to assist building occupants in times of crisis.



CALIBRATED EXCELLENCE

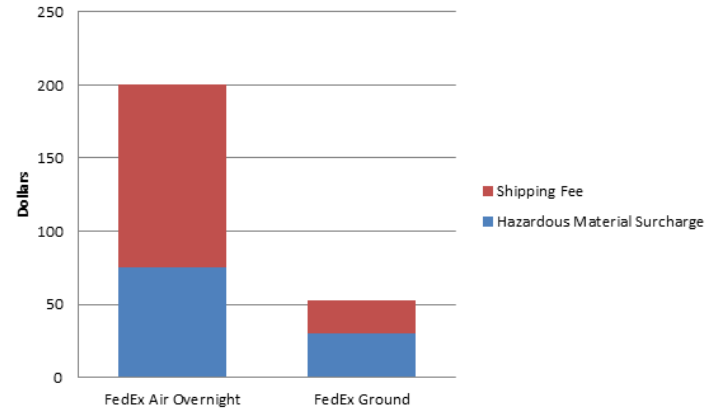
EH&S calibrates and lends monitoring equipment to our campus community, allowing for **minimal work disruption and reduced equipment costs.**

11 monitors were calibrated a total of **122 times** for use by the Department of Residence, Athletics and Facilities Planning and Management.



STAYING GROUNDED

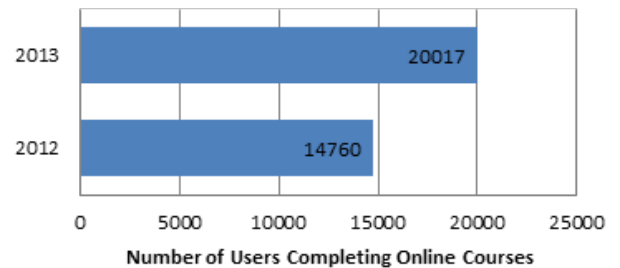
EH&S negotiated a contract to ship hazardous chemicals with FedEx Ground. Shipping rates with FedEx Ground are a **fraction of the cost** and the hazardous materials handling surcharge is about **half of the air rate.**



YOUR PORTAL TO THE WORLD OF SAFETY

The EH&S website connects users to publications, manuals, training courses, and the EH&S staff directory. Constantly **improving the user experience** and accessibility of our website led to a **102% increase** in unique visitor traffic to the site since 2012.

Safety Training Serves Increased Numbers



Top 5 Most Visited Publications

27,095



EH&S currently offers **40 online** and **31 classroom courses** for Iowa State University faculty, staff and students.

CHEAPER BY THE DOZEN

A charged extinguisher allows building occupants to escape, or fight a fire in its early stages. A quickly extinguished fire causes **less damage** and requires **less money for repairs.**

INSPECT



MAINTAIN



EXTINGUISH

