



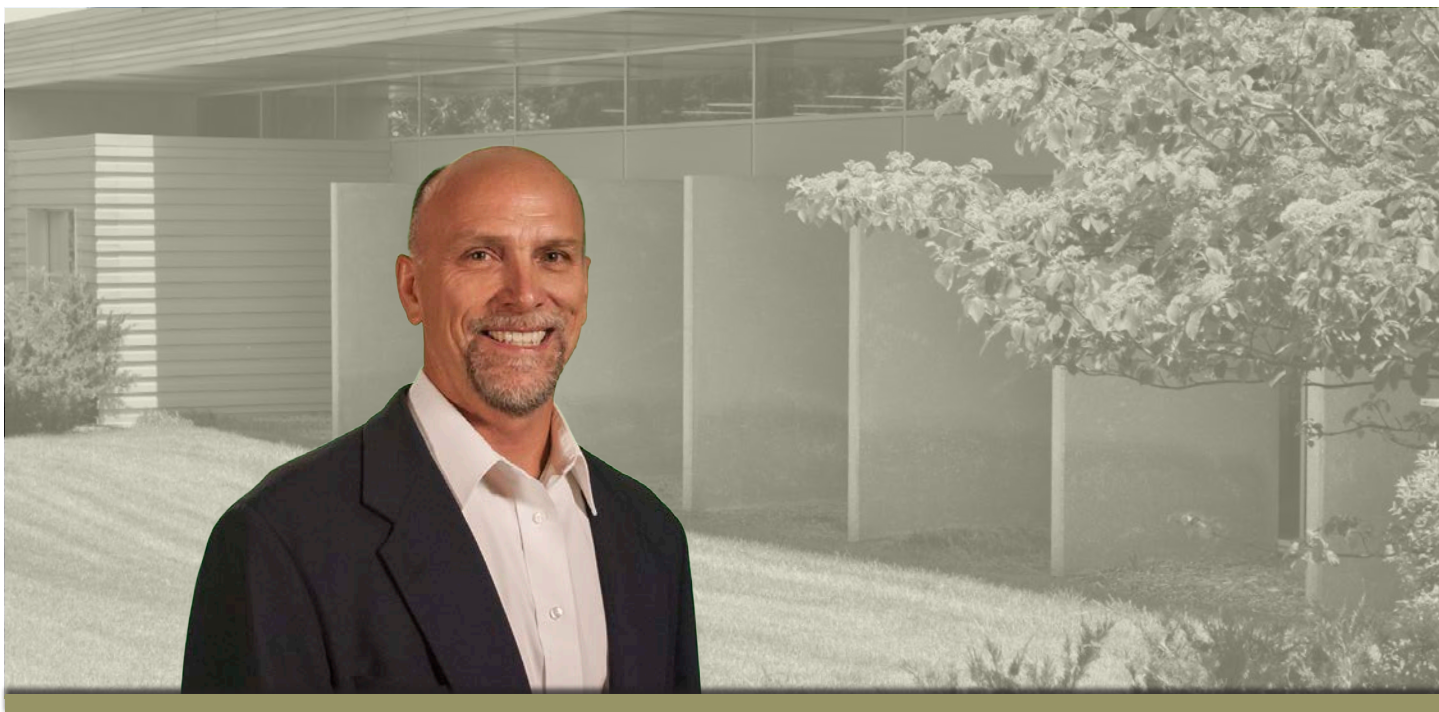
# EH&S 2022

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## ANNUAL REPORT

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## A Note from Our Assistant Vice President

“ We will remember 2022 as a year of endings and beginnings. This annual report marks the end of Environmental Health and Safety's (EH&S) previous strategic plan launched in FY2017 as well as the end of long, successful careers in key leadership positions with the retirements of Drs. David Inyang and Stephen Simpson.

The year also ushered beginnings with a new EH&S Strategic Plan launched in July and a seamless leadership transition. Bill Diesslin and I were selected to fill the Director of EH&S and Assistant Vice President positions, respectively.

EH&S also gained several new team members, who bring fresh perspectives and talents to the team.

What remains unchanged is EH&S's commitment to quality customer service, injury and illness prevention, environmental protection, and campus readiness. We believe this report illustrates that commitment. Please have a look.

– **Paul Richmond**  
Assistant Vice President



**293,406**

Total Incinerated  
Waste (lbs)



**602**

Total Safety  
Surveys Completed



**1,203**

Hazardous Materials  
Packages Shipped



**44,537**

Courses Completed  
in Learn@ISU

# What's Inside?

## Annual Report 2022



### Our Mission

Prevent illness and injury, protect the environment, and connect the university to the message of safety and preparedness.



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# Everyone. Home. Safely.



# Valued Connections

Annual Report 2022





*Gilman laboratory during the initial waste inspection.*

## Out with the Old

EH&S regularly assists with laboratory clean outs as researchers wrap up projects and professors move on to new adventures, but EH&S found itself in new territory with a particularly challenging clean out of a retiring professor's storage room.

Not so fast: A typical clean out takes about 2-3 hours for the EH&S team to complete, and large ones can take 6-8 hours. However, this clean out spanned two weeks.

Contributing factors: Many chemicals in this storage room were hazardous, but that is only part of the story. Several containers weren't labeled, so the contents were unknown. EH&S partnered with colleagues from the Ames National Laboratory and a third-party vendor to conduct on-site waste determination testing. This was necessary to allow off-site shipment and disposal of the unwanted chemicals.

- Large laboratories equipped for extensive amounts of chemical experiments, like those in Gilman and Hach halls, typically need help with clean outs, but this storage room had an unusually large amount of materials.
- About half of the waste materials were brought to the Regulated Materials Facility in the Environmental Health and Safety Services Building (EHSSB) for bulking while the rest were packed and prepared for shipment straight from the laboratory.

Unusual suspects: During the pre-removal waste determination process, the team identified chemicals that can no longer be disposed of in the United States and others that were controlled substances.

- The controlled substances were managed through the veterinary medicine incinerator per the university's standard operating procedure. The other chemicals were sent to Canada where they could be properly managed.

Lessons learned: Good housekeeping habits can go a long way in keeping research environments safe and saving time and money when departments pass laboratories to the next researcher(s). ■



# Recovering Radioactive Rubbish

**What happened:** A local metal recycler detected radiation in a truckload of scrap. The recycler rejected the load and contacted EH&S for assistance. The Iowa Department of Health & Human Services' Bureau of Radiological Health (BRH) has a memorandum of understanding with EH&S for radiological support services. It was decided that EH&S would manage the identification and disposal of the radioactive material. This spared the BRH a trip to Ames, and the situation was addressed quickly.

**Why it matters:** Instead of treating the whole load of scrap metal as radioactive material, the radioactive item was located, saving significant disposal costs.

**The intrigue:** EH&S is uniquely equipped with five subject matter experts and the tools necessary to identify specific radioisotopes. EH&S brought the radioactive metal to the Environmental Health and Safety Services Building (EHSSB) for analysis, where the team determined that the contamination was likely radioactive iodine, I-131.

- This isotope is commonly used in thyroid therapy and decays with an eight-day half-life.

**State of play:** The radioactive item was stored at EHSSB until it was no longer radioactive, about a three-month process. ■



Radioactive metal retrieved from a truckload of scrap. EH&S determined that the contamination was likely radioactive iodine, I-131.



Researcher prepared samples in a biosafety cabinet (BSC).

## A Cost-effective Coincidence

An unused biosafety cabinet (BSC) from the Iowa State University Veterinary Diagnostic Laboratory (VDL) brought a breath of fresh air to a microbiology teaching laboratory that needed a functional BSC.

- BSCs keep the laboratory environment, personnel, and products safe. These cabinets are certified annually to ensure proper operation and integrity.
- This laboratory is where preparatory work takes place for undergraduate microbiology teaching laboratory courses. A certified BSC is critical to the microbiology teaching program.

Catch up fast: The microbiology teaching program's 40-year-old BSC failed certification, and repairs were expensive, while other needed modifications were impossible for the old model.

- A new HEPA filter alone can cost more than \$2,500. Factor in the other parts needed to bring the cabinet up to the current certification standards — fan motors, alarms, and structural element upgrades — and it quickly becomes a pricey operation.
- In November 2020, a professor from the microbiology teaching program contacted EH&S about a more economical solution to the laboratory's BSC issue.

Making connections: In November 2021, EH&S realized that the VDL had a BSC in relatively good condition. It only needed new HEPA filters to be certified and back in service.

- The VDL decided to purchase a new BSC and discard their old one through the EH&S Lab Equipment Disposal Process.
- EH&S completed an assessment and communicated with the microbiology laboratory personnel in Science Hall I to determine if the BSC from the VDL would fit the space — it did.
- After transporting the BSC from the VDL to Science Hall I, installing the new HEPA filters, and a third-party inspector certification, the BSC was ready for a new life.

Check please: The purchase and installation of the new HEPA filters on the BSC cost a total of \$3,000. That's a good deal considering a new BSC would cost at least \$10,000. ■



# Setting Campus Partners Up for Success

The athletic and agronomy departments turned to EH&S to ensure their newly acquired equipment was safe for use.

The athletic department purchased a DEXA (dual energy x-ray absorptiometry) machine to help identify injuries and work toward injury prevention. EH&S performed a safety survey on the DEXA to verify proper installation.

Catch up fast: The athletic department unexpectedly found funding for a DEXA machine. Due to the nature of the funding, there was limited time to acquire the machine and train operators to treat patients.

- Since EH&S supports three DEXA machines on campus, EH&S connected the athletic department with a qualified clinical operator from the kinesiology department.
- The qualified operator provided 40 hours of clinical training to the athletic department's four operators using the kinesiology department's DEXA system in Forker.

Let the games begin: Athletic department staff completed the required training in time to scan Iowa State athletes at the beginning of the fall 2021 football season.

It's a win-win: The athletic department gifted an unutilized BOD POD® unit, a device used to measure body density, to the kinesiology department.



Dual energy x-ray absorptiometry machine that the university's athletic department acquired. EH&S performed a safety survey on the machine to verify proper installation before use.

An agronomy research group purchased nuclear gauges for measuring soil moisture several years ago. The research group never used the gauges, so EH&S trained and assisted them in refurbishing the equipment.

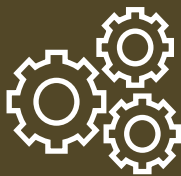
What happened: EH&S helped the researchers interpret the manufacturer's training and user manual.

- During testing and training for operation and safety, EH&S found that two of the four gauges needed a battery replacement. EH&S safely opened the battery compartments so that the researchers could order new batteries and complete the replacement.
- EH&S also prepared procedures and transportation paperwork for the agronomy researchers to reference.

Of note: The agronomy researchers collaborated with colleagues at the University of Nebraska-Lincoln (UN-L), and EH&S worked with the UN-L radiation safety officer to arrange field training so that the Iowa State researchers to use their nuclear gauges for a project located in Nebraska.



Soil gauge instrument like those acquired by the Iowa State research group.



**34 TOTAL RADIATION DEVICES  
CALIBRATED FOR ISU CAMPUS IN 2022**

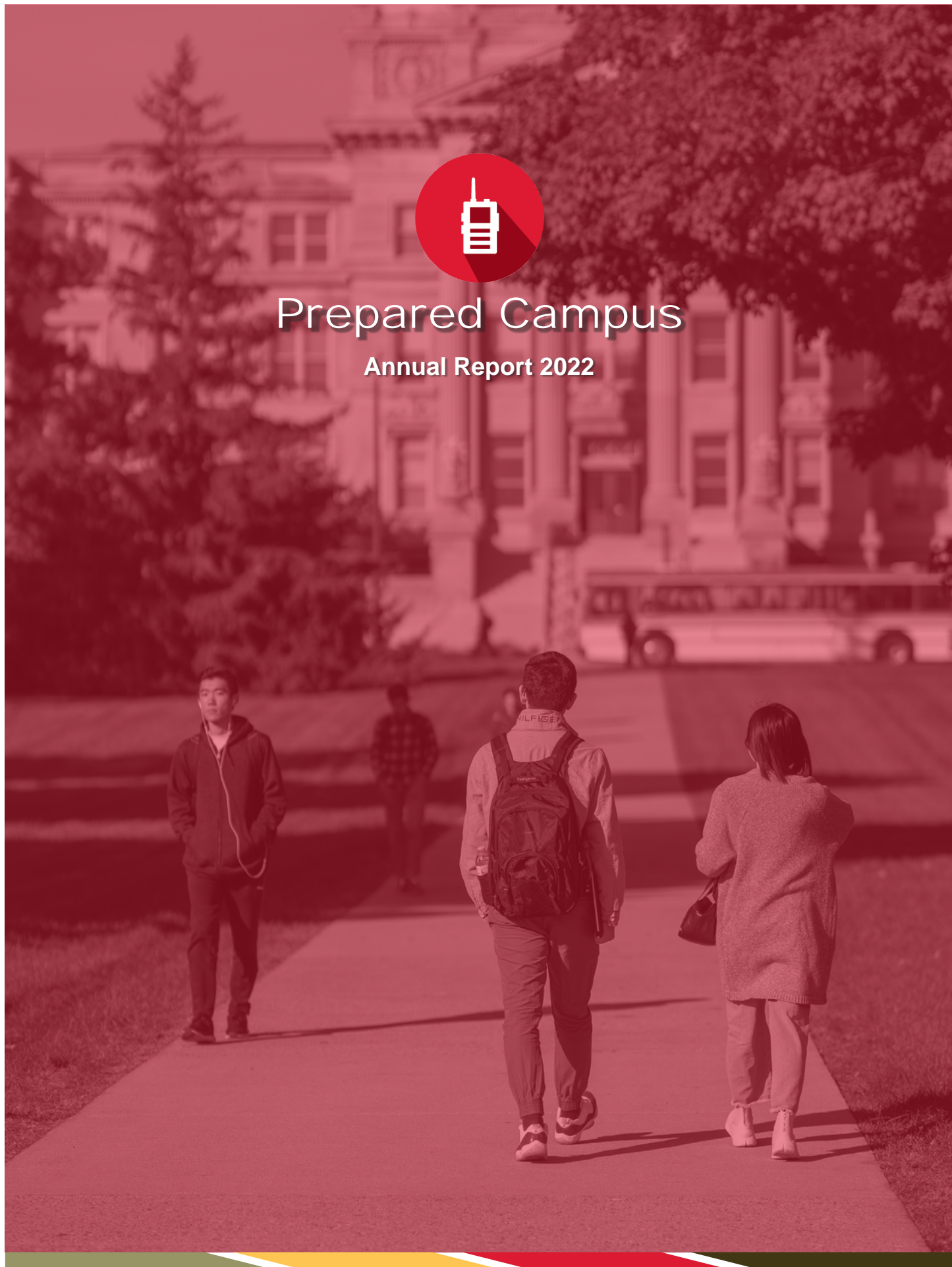
Big picture: EH&S doesn't just have expert knowledge; it also has meaningful relationships across campus and externally that can help cultivate unique (and often economical) solutions for university departments. ■





# Prepared Campus

Annual Report 2022



# Cultivating Healthy Habits

EH&S performs annual laboratory safety surveys to maintain and improve safety in university laboratories. However, campus community members may not realize EH&S also conducts investigations following an incident or injury in a laboratory. These interviews lead to improvements that make learning and working at the university a safer experience.

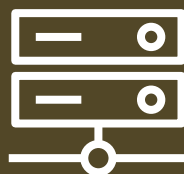
**Productive chats:** In 2022, better housekeeping practices could have prevented the most frequent injuries EH&S encountered.

- The typical injuries and incidents reported were chemical spills/exposures, lacerations, burns, and fires. Disorganization was the common denominator in most of these situations.
- After each incident investigation, EH&S identified simple daily habits the laboratories could implement to reduce the likelihood of a recurrence.

**Keep the conversation going:** EH&S's safety survey program focused on hazard assessment throughout the year, since several of the previous incidents and injuries identified misunderstanding of the hazards inherent in laboratory work.



**How it started:** EH&S worked with each research group on campus during their annual laboratory safety surveys to ensure they understood the hazards present and the controls needed to minimize injuries.



**408 LABORATORY  
SAFETY SURVEYS  
COMPLETED IN 2022**

**What they found:** EH&S identified nearly 150 research groups who needed help completing their hazard assessments.

- EH&S supplemented conversations with researchers by adding common laboratory hazard examples to the hazard assessment template.
- EH&S also developed a hazard assessment and standard operating procedure workshop to bring to departments interested in learning more.

**The takeaway:** Cultivating conscious laboratory habits can help streamline laboratory workflows and keep researchers and students safe. ■



# You Are Your Own First Responder

In the fall 2021 semester, EH&S piloted the course You Are Your Own First Responder. Students learned how to care for others in an emergency until professional responders arrive on the scene, and then they put their new knowledge to the test in a hands-on disaster simulation.

The buildup: EH&S's Emergency Management (EM) experts built a relationship with the University Honors Program through a series of speaking engagements for the Honors Student Board in the spring of 2021. Those went well, and the program approved a full emergency preparedness course the following semester.

Under pressure: Students gained the confidence required to respond to real-life incidents through lectures, discussions, and practical applications.

- Phase One: Students acquired skills for responding to disaster survivors, including response team organization, search and rescue, patient assessment and movement, wound treatment, disaster psychology, fire suppression, and hazardous materials awareness.

- Phase Two: A tornado simulation (including debris, fake blood, and aspiring journalists) put the students' skills to the test. In this controlled, yet believable, environment, students acted as they would in a real emergency.
- Phase Three: The class examined historical disaster responses and practiced post-incident analysis to promote continuous improvement in emergency preparedness.

The response: Students' mindsets changed when they realized they can make a difference in an emergency — that they are allowed and empowered to make a difference. The hands-on experiences delivered throughout the course equipped the students to act in a crisis.

What's next: EM delivered the course again during the 2022-2023 academic year, and student response indicates a continuing appetite for it in future years. ■



Simulation participants waited behind the scenes for the event to begin. Some students from a stage makeup and costume course volunteered to use their skills to make the simulation actors look like victims.



EH&S's emergency management experts reviewed details with other event coordinators to ensure a safe and seamless experience for the students. Faculty members, Student Counseling Services, and local first responders attended the simulation.



Students acted as first responders and victims during the disaster simulation. Event coordinators evaluated their performance throughout the emergency exercise.

# Pursuing Preparedness

Throughout 2021-2022, EH&S delivered valuable training, calibrated radiation detection equipment, and provided information to various emergency response communities.

EH&S participated in two significant radiological emergency training activities. The first was a tabletop exercise (TTX) at MidAmerican Energy's Emergency Operations Center in Urbandale, Iowa. The second event brought a Mobile Detection Deployment Unit (MDDU) from Indianapolis to the Iowa Department of Transportation's (IDOT) north Des Moines depot.

**The TTX:** This training was part of the biennial nationwide GridEx drill, which enables electric utilities to exercise their response and recovery plans against simulated coordinated attacks on critical infrastructure.

**A simulated scenario:** The TTX scenario was a drone attack on a critical electrical substation near Des Moines that exploded a radiological dispersal device and disrupted electrical service to 250,000 residents.

**Identifying the impact:** The TTX evaluated the responders' ability to recognize the presence of radiation. Discussion also focused on the need to notice radiation in time to prevent the spread of contamination.

**A positive outcome:** This exercise allowed EH&S to improve its relationship with the Des Moines Fire Department's hazardous materials team, which is the state's weapons of mass destruction resource for central Iowa.

**The guest list:** Participants included the FBI, Homeland Security's Fusion Center, Polk County Sheriff's Department, Des Moines Fire Department, and the Hazardous Materials response team.

**2,399 TOTAL RADIATION  
DEVICES CALIBRATED FOR  
CLIENTS IN 2022**



Mobile Detection Deployment Unit.  
Image credit: U.S. Department of Homeland Security.

**The MDDU:** The MDDU from the Homeland Security's Countering Weapons of Mass Destruction Office brought intensive training to IDOT's motor vehicle enforcement (MVE) officers. EH&S brought radiation sources to the training location.

**A distinct contribution:** Iowa State University is licensed to possess unique radiation sources, and EH&S is trained to safely transport them to training sites. The sources greatly enhanced the training and the MDDU's demonstration of their ability to effectively use radiation detection equipment.

**Strengthening ties:** This training reinforced EH&S's relationship with Iowa's seven hazardous-materials-qualified MVE patrol officers.

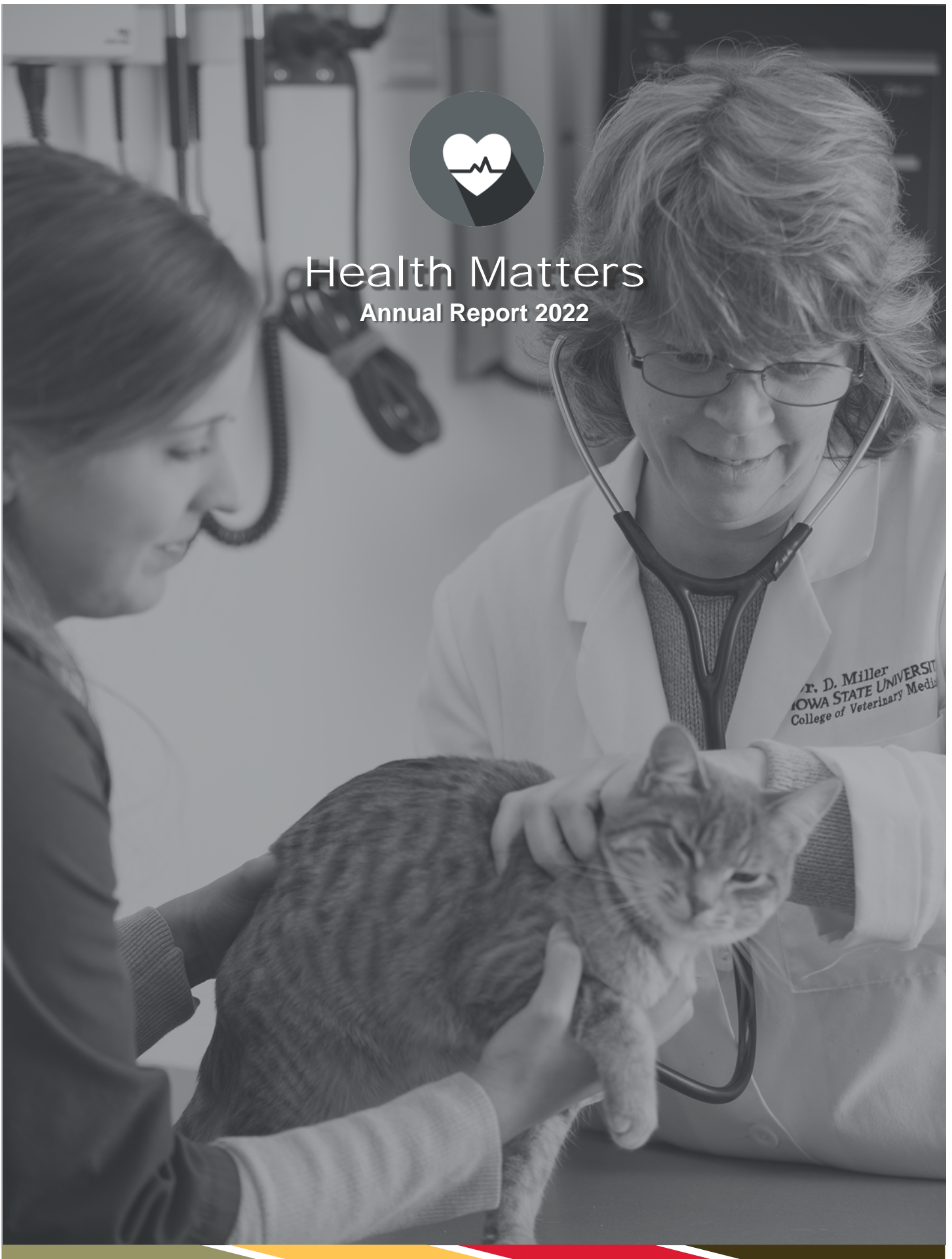
Of note: MVE officers inspect hazardous material shipments that transit Iowa, so they must know how to identify radiological and chemical hazards. ■





# Health Matters

Annual Report 2022





Map of demolition plans for the third floor of the Enrollment Services Center overlays a photo of the broken sprinkler fitting above room 307. Photo taken looking down from the attic.

## A Brisk Response to a Burst Pipe

EH&S was instrumental in the restoration of the Enrollment Services Center after a cracked sprinkler head led to extensive water damage in nearly half of the building.

Catch up fast: At 3:11 a.m. on January 3, 2022, EH&S received notification that sprinklers activated on the third floor of the Enrollment Services Center. A sprinkler head in the attic froze and broke, and an estimated 1,500-2,000 gallons of water flowed into the building before the Ames Fire Department arrived and shut off the water at 3:37 a.m.

- By January 4, crews had completed moisture assessments on all floors of the building, installed desiccant drying equipment (essentially large dehumidifiers), began removing wet building materials and technology equipment, and determined that the elevator, fire alarm, and sprinkler systems were not operational.
- By January 19, the remediation contractor completed the drying and demolition efforts and removed all drying equipment.

An institutional effort: The departments of Facilities Planning and Management (FPM), IT Services, Construction Services (part of FPM), Public Safety, and EH&S participated in the response efforts.

- EH&S served several roles in each phase of the project. Initially, the department helped determine what activated the sprinkler system and identified corrective actions to prevent similar events in the future. EH&S also provided an assessment of the moisture damage to materials in the building, which included asbestos surveying/testing, moisture testing, and validating the remediation contractor's activities.

The correction: Teams reinstalled the sprinkler piping in a way that every segment can be removed and drained after each required test, helping to prevent a pipe from freezing and bursting in the future (the university is required to conduct a full test of dry sprinkler systems every three years). ■



# Soot Up

On February 22, 2021, a fire started in a custodial closet on the first floor of Ross Hall and filled the building with smoke and soot. Though firefighters quickly controlled and put out the flames, it took months of hard work and coordination to restore the building to a habitable condition.

The roster: Two fire engines, a ladder truck, a command vehicle, and 16 firefighters were the first responders on site. Once the fire was extinguished, the university engaged several units to help with the remediation efforts, including:

- Iowa State University Police
- Department of Facilities Planning and Management
- Board of Regents' Property and Facilities Committee
- City of Ames
- Ames Fire Department
- Johnson Controls
- Story Construction
- ServiceMaster



Walls and ceilings on the first floor of Ross Hall were stained black after the fire. Image credit: Iowa State University News Service.

The intrigue: Due to the significant impact of smoke in the building, especially on the first floor, EH&S completed indoor environmental air quality sampling immediately after the flames were extinguished and at several stages throughout the remediation process.

- EH&S also assessed the potential for hazardous materials in the affected building materials.



Ames firefighters responded to extinguish the fire at Ross Hall. Image credit: Nirmalendu Majumdar, Ames Tribune.

All clear: On June 24, the State Fire Marshal inspected the building, tested the new fire alarm system, and gave the university permission to move contents back into the building. It was fit for hosting classes again the following semester. ■





Students gathered at fountain in front of the Memorial Union at night.  
Image credit: Iowa State University, University Marketing.

## Enhancing Campus One Step at a Time

Each semester, EH&S joins student government representatives on a campus safety walk after dark. Together, staff and students spot potential hazards on campus.

The proof is in the footing: From tripping hazards on sidewalks and parking lots to burnt-out lights and dark corridors, the safety walks helps university departments identify hazards or safety concerns before an incident occurs.

- Student government leaders divide campus into sections that can be walked within an hour. Representatives from each participating group — student government, facilities planning and management (FPM), public safety, and EH&S — walk each section.
- Student government representatives record any action items and submit them to FPM for follow up.

**What they find:** The items identified are primarily tripping hazards, burnt-out lights, poorly lit areas, construction sites, building security, overgrown landscaping, and other

impediments that may cause staff or students to feel unsafe on campus.

In someone else's shoes: Routines are easy to slip into, so the opportunity to experience ISU from a different perspective helps EH&S remain vigilant about safety concerns throughout campus.



**390 OCCUPATIONAL  
CORRECTIVE ACTIONS  
IDENTIFIED IN 2022**

Big picture: The campus safety walks serve as a reminder that creating a safe and welcoming environment for all is truly a team effort. ■





# Safety without Borders

## Annual Report 2022



Several of the university's Greek chapters constructed lawn displays for the homecoming celebration.

## Safety on Display

Iowa State students celebrated the 2022 homecoming season with an array of traditions including lawn displays, parade floats, and central campus activities. EH&S completed more than 20 inspections during the festivities to ensure the stability of the assembled structures and the safety of the students using them.

What they found: EH&S shared several safety improvement recommendations with the participating Greek chapters.

- A few parade floats were initially inadequate for driving or conveying passengers. EH&S requested corrections be made or denied float approvals for occupants.
- The team paid close attention to trailer lights, ladders, railings, and electrical issues.

Bonus: EH&S also conducted safety inspections for two stages and a tent that were assembled for the homecoming pancake breakfast on Central Campus.

A tradition of its own: EH&S has conducted homecoming inspections since 2007, when Risk Management asked for assistance in ensuring the safety of the Greek lawn displays.

Each fall, EH&S briefs participating Greek chapters on safety requirements at the beginning of the homecoming season, on pre-inspection, and again before the final inspection. ■



# Aiding Those Who Care for Others

EH&S was a valuable resource to the Iowa Department of Health & Human Services (Iowa HHS) as it implemented respiratory protection program resources for long-term care facilities. EH&S assisted with the development of resources that facilities across the state can use to ensure employees who intend to wear respiratory protection are properly fit tested.

**Catch up fast:** The COVID-19 response revealed a substantial need for fit testing in healthcare settings, especially in long-term care and assisted living facilities. Throughout the pandemic, the Iowa HHS discovered many facilities needed help understanding the fit testing process. With EH&S's help, the Iowa HHS created a centralized website to guide facilities through the process.

- Currently, there isn't a fit tester certification, so anyone with the right resources can learn the process and help properly fit test the staff at their facility. The Iowa HHS designed the Respiratory Protection Program website to facilitate that process.
- EH&S provided resources and reviewed respiratory protection program templates, training presentations, and other resources to publish on the Iowa HHS's website.

**The connection:** The Iowa HHS approached the Center for Food Security and Health (CFSPH) at the College of Veterinary Medicine (Vet Med) about developing a one-stop-shop website for fit testing for long-term care facilities. The CFSPH contacted EH&S for expertise in developing respiratory protection program resources.

For many years, EH&S has worked closely with Vet Med to fit test employees. The existing relationship between these units cultivated the opportunity for EH&S to assist the CFSPH. ■



# A Growing Knowledge

EH&S participated in several radiation safety sessions throughout the year, and throughout the state, to expand the radiological comprehension of Iowa's first responder network. EH&S participated in valuable meetings with professionals from the Quad Cities Generating Station (QCGS), the Iowa Department of Health & Human Services (Iowa HHS), and the Iowa HHS Bureau of Radiological Health.

**QCGS:** In September 2021, EH&S delivered freshly-calibrated radiation detection equipment to Clinton and Scott counties during the annual radiological training at the community reception center (CRC) in Clinton County, Iowa.

**Catch up fast:** The annual radiological safety refresher training is part of EH&S's commitment to Iowa's Homeland Security and Emergency Management Department. As the supplier of calibration services and equipment, EH&S is responsible for maintaining the equipment in the CRCs — designated facilities stocked with the equipment necessary to support the evacuation of the public if there was an emergency at the QCGS nuclear power plant — and providing expert training on the detection of radioactive contamination and subsequent decontamination activities.

**Of note:** EH&S is part of the Radiological Emergency Response Team effort for the QCGS. If there was an emergency at the QCGS, EH&S would provide a trained field team and coordination group to respond to the incident.



The Department of Energy (DOE) Radiological Assistance Program (RAP) and the 71st Civil Support Team (CST) both use advanced radiation detection equipment. This equipment identifies the chemical composition of radioactive contaminants.

**Iowa HHS:** Effective January 2022, EH&S began a new partnership with Iowa HHS to assist in radiological emergency planning and training across the state.

**A strong start:** One of the first joint efforts was submitting a \$75,000 grant application for FEMA funds to purchase new radiation monitoring equipment for Iowa's hazardous materials response teams.

In September 2022, EH&S learned the grant would be funded. A portion of the funds will be used to support EH&S in training the responders to use the newly-purchased equipment.

**How we got here:** The Iowa HHS Bureau of Radiological Health considered hiring a new staff member, but EH&S proposed that its



The trailers of radiation detection equipment are ready for deployment at the workshop held on the university's campus. The trailers belong to the US Homeland Security's MDDU (Indianapolis), the 71st Civil Support Team (Des Moines), and the DOE RAP (Chicago).

radiation experts could better fit the training needs.

- Since statewide radiation calibration services were transferred to EH&S, the university was already connected with many of the 26 hazardous materials teams across Iowa.
- Iowa HHS provided additional funding to support EH&S's work and outreach costs, which allowed them time to complete the grant application.

**Bureau of Radiological Health:** In March 2022, EH&S partnered with Iowa HHS's Bureau of Radiological Health to host a multi-agency radiation emergency response workshop in Ames, Iowa. Through a series of trainings, tabletop discussions, and breakout sessions, the federal, regional, state, and local assets examined their roles and ways to better coordinate resources.

**Two firsts:** This was the first workshop of its kind and a major accomplishment of EH&S's new partnership with the Iowa HHS.

- On the first day, about 40 field responders learned how to use the GPS-enabled CBRN-Responder, the mobile application used to collect simulated data in the field. The submitted data is transmitted to the incident command team members in the mock emergency operations center.
- On the second day, about 90 workshop attendees (field responders and incident command staff) participated in a simulated scenario in which a radiological dispersal device, or dirty bomb, exploded in Ames.



A HAZMAT team member entered data on his cell phone app, CBRN-Responder, which was transmitted into the command center.

**Bonus:** The training also served as professional development for members of EH&S, helping them keep up with developments in the industry and better serve the university and surrounding community. ■



Field responders listened to the dirty bomb scenario in preparation for deploying to collect data.

# Celebrating 50 Years and More

EH&S celebrated its 50th anniversary as a department at Iowa State in June 2022. EH&S's founding fathers, Emery Sobottka and Sam Townsend, established the department with a focus on the wellbeing of the campus and surrounding communities, which still remains its mission today.

**Why it formed:** According to the 1974 annual report, the EH&S “department was formed to provide better direction and coordination of all safety programs on campus.”

**Then and now:** The initial focus was on industrial hygiene, radiation safety, sanitation, and occupational safety and health. Since then, the department has expanded to also support laboratory and biological safety, environmental protection, fire safety, and emergency management.



**Fun for all:** EH&S held an open house on June 10, 2022, to share the special anniversary with the campus and local community.



Each EH&S team operated a game with prizes, and the department coordinated a pop-up museum displaying various relics and tools used over the last five decades.



Guests also had the opportunity to tour the Regulated Materials Facility in the Environmental Health and Safety Services Building.



**All for safety:** At the anniversary celebration, EH&S was pleased to recognize Dr. Sriram Sundararajan and his team at the College of Engineering (CoE) as the winner of our inaugural Safety Partnership Award. This award was intended to recognize a group or individual for contributing to the safety of Iowa State University and the mission of EH&S.

- Each EH&S team submitted a nomination for this award, and final decisions were made by a committee of EH&S colleagues.

**A strong partnership:** Dr. Sundararajan's efforts to establish a safety culture in the CoE were exceptional and had a top-down approach. He was instrumental in establishing the CoE safety steering committee in 2016, which led to creating a dedicated EH&S safety position for CoE.

- This partnership has allowed other departments to see the benefits of partnering with EH&S for safety support.
- His leadership spread and strengthened the safety culture across the CoE.

**Other nominees:** All the other nominees for EH&S Safety Partnership Award were also recognized with a certificate to appreciate their safety efforts. These included:

- Adam Pepper and FPM Fire Group – Facilities Planning and Management
- Michelle Grawe – Materials Science and Engineering
- Sarah Beckman and Ryan Amdorfer – Chemical and Biological Engineering
- Stephanie Canon – Veterinary Clinical Sciences
- Stop The Bleed instructors – Thielen Student Health Center
- Will Coeur – Music and Theater

**The VIPs:** President Wintersteen and Cy made guest appearances to help celebrate the occasion. ■





# EH&S 2022

JUST THE FACTS

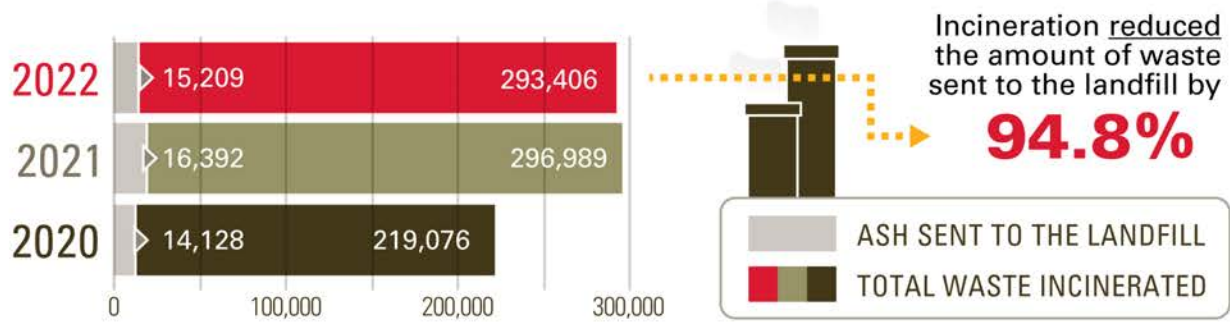


**Everyone  
Home  
Safely**

# JUST THE FACTS 2022

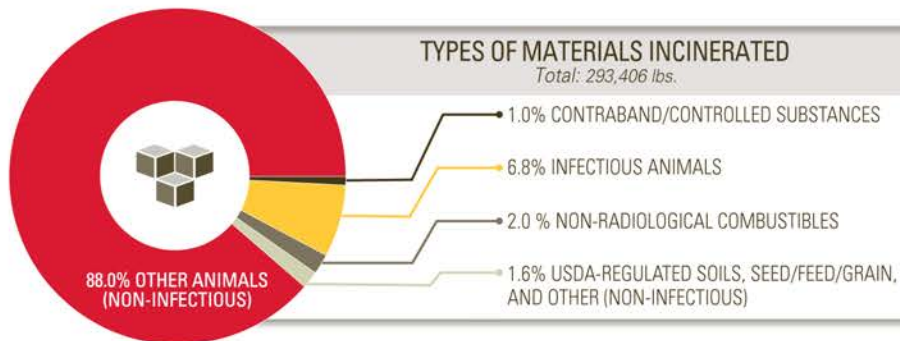
## ENVIRONMENTAL PROGRAMS

### INCINERATED WASTE (LBS)

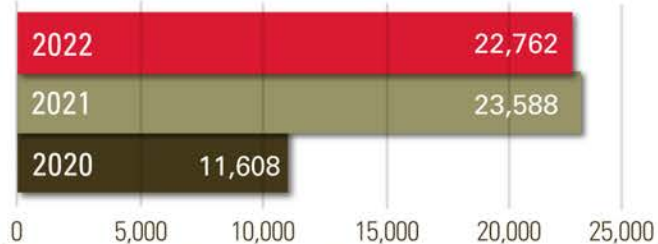


### TYPES OF MATERIALS INCINERATED

Total: 293,406 lbs.



### CHEMICAL CONTAINERS PROCESSED



### CHEMICAL WASTE

- 116** Radioactive Waste Packages Processed
- 1,708** Non-PCB Ballasts Shipped (lbs)
- 2,003** Gallons of Used Oil Recycled
- 2,084** Trips to Retrieve Waste from Campus
- 2,281** PCB Ballasts Shipped (lbs)

## FIRE SAFETY

### AEDS

- 3** Urgent Deficiencies\*
- 25** Battery Replacements
- 70** Pad Replacements
- 128** Annual Inspections
- 154** Semi-annual Inspections
- 414** EM Sign Inspections/Installs
- 1,158** Monthly Inspections

### FIRE EXTINGUISHERS

- 79** Urgent Deficiencies\*
- 471** Six-year Maintenance
- 480** 12-year Hydrostatic Tests
- 6,704** Annual Inspections
- 38,728** Monthly Inspections

\* All emergency repairs completed within five business days.

# JUST THE FACTS 2022

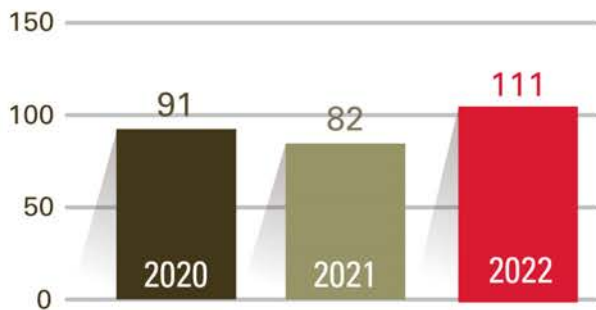
## OCCUPATIONAL HEALTH

12	Ergonomic Evaluations
13	Indoor Air Quality / Mold Investigations
28	Personal Exposure Monitoring Samples Collected
142	Immunizations Administered by Occupational Medicine Office
502	Respirator Fit Tests
1,029	Medical Tests at Occupational Medicine
1,556	Exposure Hazard Assessments
1,937	Active Participants in Occupational Medicine Program

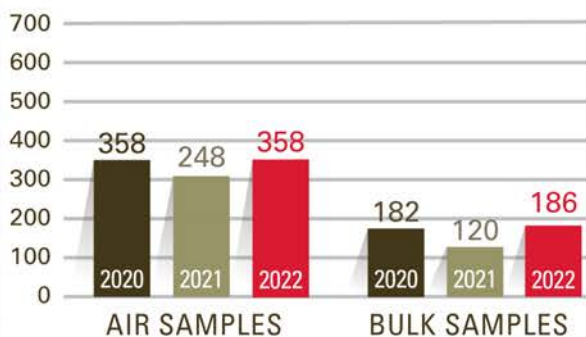
## ASBESTOS & LEAD

**\$403,134** In Managed Projects

### PROJECTS MANAGED



### ASBESTOS SAMPLES ANALYZED

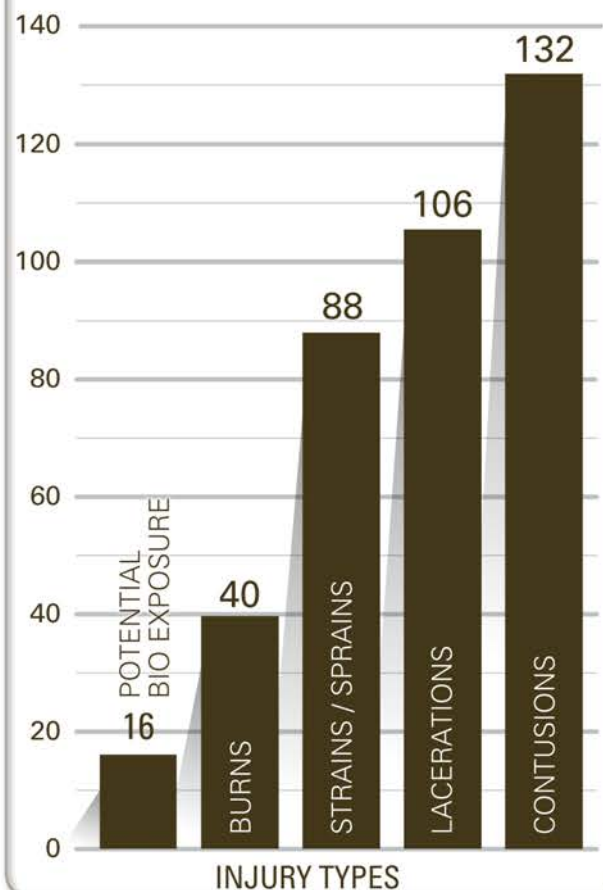


## OCCUPATIONAL SAFETY

325	ISU Respirator Users Trained and Fit Tested
42	Ames Police Officers Respirator Fit Tested
49	Ames Firefighters Respirator Fit Tested
72	Monthly, Quarterly, and Biannual incident reports provided to EH&S safety partners
204	Confined Space Meter Calibrations
483	Reported Employee Injuries

456	Accident / Incident Investigations
94%	Reported employee incidents investigated
390	Corrective Actions Identified
86%	Investigations resulted in a documented corrective action

### TOP 5 EMPLOYEE INJURY TYPES



# JUST THE FACTS 2022

## RADIATION SAFETY

27	Laser Systems in Use
52	X-ray Systems in Use
119	Radioactive Material Packages Tested, Inventoried, and Delivered
157	Labs Approved for Radioactive Material
346	Radiation Safety Inspections
458.5	Pounds of RAM Waste Collected
1,194	Radiation Contamination Samples Collected and Analyzed
1,542	Personal Dosimeters Issued and Analyzed

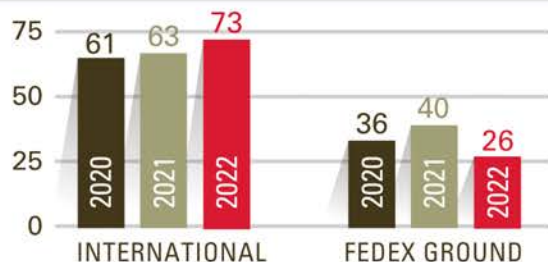
### CALIBRATION FACILITY

DEVICE TYPE	DEVICES PER CLIENT TYPE
Radiation Detection Meters	34 ISU Campus
114 Professional Devices	43 External
129 1 <sup>st</sup> Responder Devices	177 Public Service
114 Personal Dosimeters	2,145 Nuclear Power
387 Total	2,399 Total

## BIOLOGICAL SAFETY

43	Autoclave Tests
262	Biosafety Cabinet Certifications
435	IBC Protocols
451	IACUC Protocols / 23 IACUC Inspections

### PACKAGES OF HAZARDOUS MATERIALS SHIPPED

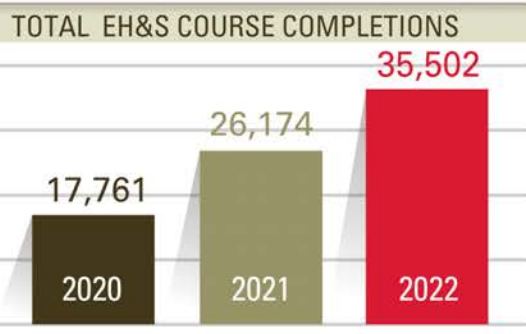


## LABORATORY SAFETY

62	Tax-Free Ethanol Applications Processed
72	Fume Hoods Repaired and Recertified
408	Lab Safety Surveys / 1,277 Deficiencies Corrected
1,237	Lab Equipment Disposal Inspections
1,254	Fume Hood Certifications
TOTAL SAFETY SURVEYS	
All authorization types - Lab, Bio, Shop, Farm, Rad, etc.	
602	Total Completed / 1,671 Deficiencies Corrected

## TRAINING & COMMUNICATION

61,571	Twitter Impressions
376,086	Website Visits



1,254  
LIVE TRAINING  
PARTICIPANTS

+



34,248  
ONLINE TRAININGS  
COMPLETED

### ONLINE COURSE COMPLETIONS BY SYSTEM

