

2017

# Annual Report EHS

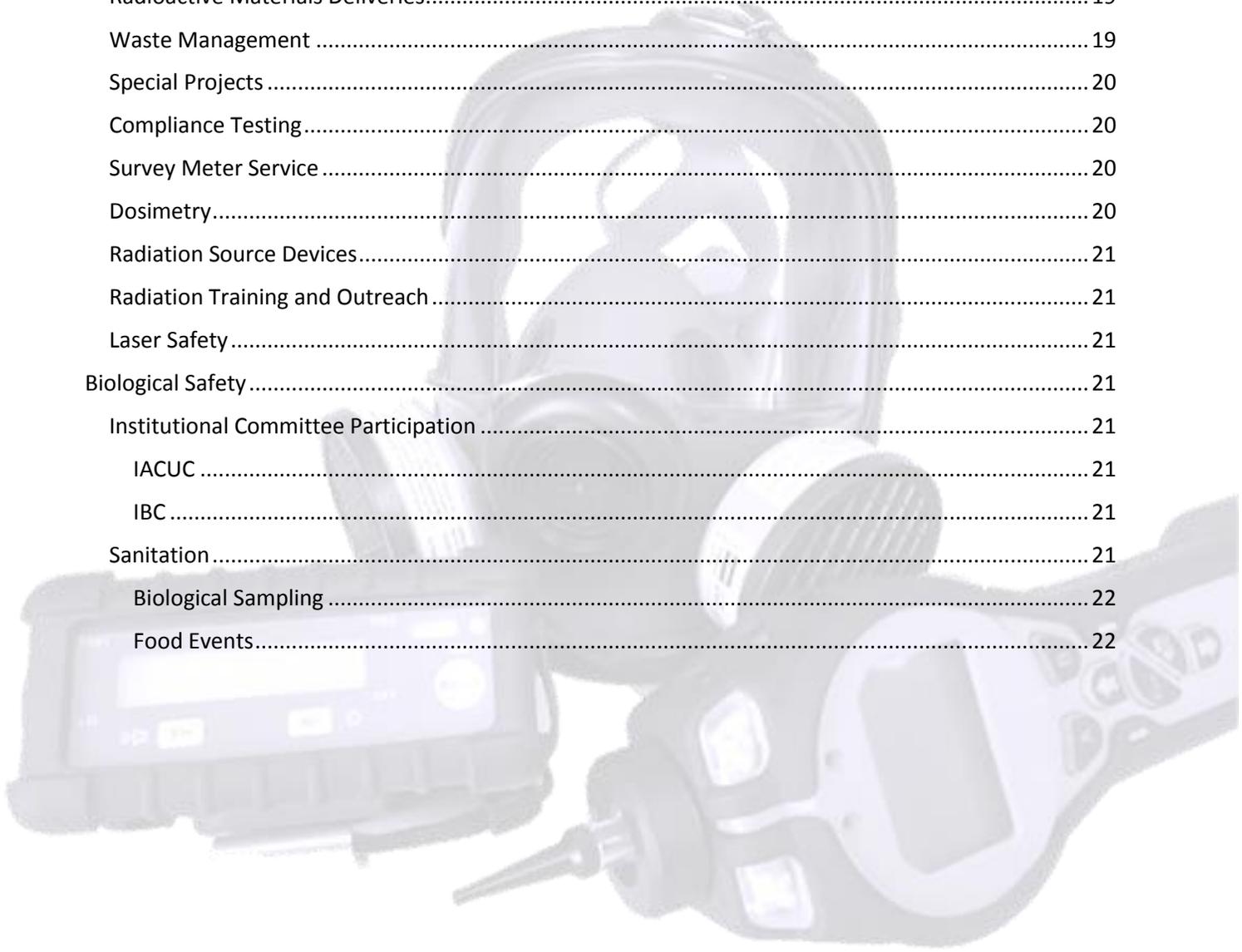


**KANSAS STATE**  
Environmental Health  
and Safety

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# Environmental Health and Safety

Departmental Annual Report

## Executive Summary

2017 brought many changes for Environmental Health and Safety (EHS). Six searches were conducted and five vacancies filled. Environmental Health and Safety took over the safety compliance and training responsibilities for Facilities Management. Two related staff positions were transferred from Facilities Management (FM) to EHS. These positions will now serve the safety and compliance needs of all K-State in addition to FM. An environmental technician position was added to support the hazardous waste operations and in response to additional compliance program requirements under the institution’s Title V air permit. After several failed searches (due to salary expectations), the vacant EHS Industrial Hygienist position was revised to an Associate Director for Research Safety and Industrial Hygiene to serve a broader role for K-State. A departmental organization chart is provided as Appendix A. EHS staff also participated in multiple search committees for other departments.

Notable EHS services *changes* for 2017 include the addition of:

- an online learning management system (Vivid)
- laboratory registration and signage standardization
- web-based Laboratory Safety Manual
- quantitative respirator fit testing capacity
- 101 additional tracked air emission sources
- 117,398 GSF building space

## Summary 2017 Metrics

The following are metrics for *a sample* of EHS activities conducted in CY 2017. These do not represent an exhaustive list of EHS work products. Additional detail and activities are provided in the report that follows.

### 2017 Trainings Provided

Training	Courses/Events	People
Hazardous Waste	9	147
Hazard Communication	6	88
Police - First Responder	2	
Facilities	43	1143
Facilities Onboarding		70
Radiation Safety	24	90
Fire extinguisher	29	649
Online courses (29 topics)	2330	1560

## Regulated Waste Management

Waste Managed	Amount
Hazardous Waste	53 tons 1327 pick ups
Radioactive waste	120 packages collected 31 pick ups
Biohazardous Waste	88 packages disposed 724 containers

## Number of Inspections

Inspection	Number
Employee Safety Equipment	101
Emergency Showers (EHS)	104
Asbestos	61
Radiation Swipes	2,112
Radiation Leaks Tests	260
Sanitation	108
Annual Fire Code	193
Construction Fire Code	108
Hydrant/Exit Signs/Panels (EHS)	124,317
Fire Suppression/Alarm System (contracted)	6,377
Air Emission Sources	127
Fume Hoods	434
Exposure Assessments	15
<b>Total</b>	<b>134,317</b>

### Fire Safety Program

This program is responsible for compliance inspections/audits, life safety equipment inspection and testing, and review of all construction and renovation projects for compliance to fire code. The state authorized internal Fire Marshal performs annual inspections of over 91% of the total square footage that make up K-State campuses (>10M square feet). Clery report data is collected by EHS to inform the annual campus report.

### Code Compliance and Annual Fire Inspections

Compliance inspections and construction related code plan reviews and inspections are conducted by the EHS fire marshal. These services include most KSU spaces (i.e., main campus, satellite campuses, student union, and Housing and Dining). The State of Kansas Fire Marshal representatives inspect KSU buildings four stories and higher in cooperation with the EHS fire marshal. The following summarizes the activity of the KSU fire safety unit related to fire code compliance annual inspections, corrective

actions, and construction related reviews. Fire code compliance consultation is also provided for special events (e.g., rodeo, McCain events, etc.), for research and student group activities (e.g., engineering Rocket Club) and for general campus community inquiries.

- 193 Building-Wide Annual Fire Safety (code compliance) Inspections - Totaling **9,381,979 sq. ft.**
- 1572 Citations Issued and Corrective Actions Tracked
- 108 Construction Related Inspections (code & confirmation prior to issuance of occupancy cert)
- 65 Code footprint construction plan and temporary egress plan reviews and approvals
- 7 Special events
- 99 Hot Work Permits issued

### Fire Equipment Testing and Inspection

The testing and inspection of Fire and Life Safety equipment and systems is managed by EHS for most facilities at KSU (excluding Housing and Dining). These services are conducted through a contractor (Simplex Grinnell) or by internal staff within the EHS Fire Safety unit. Figure 1 illustrates the portion of services performed by internal staff versus a contractor. Table 1 provides a summary of the actual number of fire and life safety equipment and system tests and inspections performed in the calendar year 2017 at KSU that are managed by EHS. EHS performed **90.3% of required inspections and tests** due to a vacant fire inspector position in the first quarter of 2017. Contractor costs in CY17 totaled \$416,327. \$84,631 was charged back. Related expenditures and billing data detail is available upon request.



Figure 1 Fire Equipment Services

Table 1 Fire Equipment Inspection and Testing Activity CY2017

Number of Life Safety Equipment Inspections and Tests Conducted CY2017			
Number		Internal	Contracted
140	Fire Hydrants		x
5,408	Fire Alarm Panel Weekly Inspection	x	
416	Fire Alarm System Test and Inspect		x
220	Fire Suppression System Test and Inspect		x
2,860	Fire Suppression System Weekly Inspection		x
16	Chemical Suppression Systems		x
2725	Annual Extinguisher Test/Replace		x
84,725	Monthly Exit Sign/Emergency Light Tests	x	
29,207	Monthly Fire Extinguisher Inspections	x	
4,977	Annual Exit Sign/Emergency Light Tests	x	
<b>130,694</b>	<b>Total</b>	<b>124,317</b>	<b>6,377</b>

## Fire Safety Outreach and Training

The fire safety unit provides outreach and training and responds to inquiries related to general fire safety. Scheduled fire extinguisher training is advertised through K-State Today (via HCS) and the EHS website. Articles are also provided to K-State today in advance of annual emergency lighting tests as appropriate (tests are conducted before the start of the work shift to lesson disruption).

In 2017 the unit researched developing class D extinguisher training and decided on free vendor developed video (openly available online) combined with one-time hands-on extinguisher use training.

- 29 Fire extinguisher classes delivered
- 649 People (faculty, students, and staff) trained on fire extinguisher use
- 4 Days of Fire Prevention Week Activities (2 at Housing, 1 at Student Union, 1 at Salina campus)
- 1 Fire safety related Facebook post

## Fires and Alarms Reported

EHS Fire Safety compiles fire incident data for Cleary Act reporting. The Manhattan Fire Department responded to 259 calls in CY17. The following were the only fire events recorded.

### Fire Events in CY 2017

Date: 10/24/17  
Time: 7:32 PM  
Location: Jardine Bldg. 7 (2012 Tunstall Circle)  
Damage: \$0  
Description: Cooking fire confined to container

Date: 8/25/2017  
Time: 5:00 pm  
Location: Ford Hall (1300 Old Claflin Road)  
Damage: \$0  
Description: Cooking Smoke/ No Fire

Date: 1/23/17  
Time: 11:59 am  
Location: Derby Dining Center (1451 Old Claflin Road)  
Damage: \$0  
Description: Cooking Smoke/ No Fire

## Environmental Management Services

Environmental compliance for KSU is managed by EHS. This unit oversees compliance to all environmental regulations (e.g., RCRA, HMTA, TSCA), and to specific requirements of (including but not limited to) NPDES pre-treatment permits (3), a Title V air permit, 13 SPCC plans, and reporting for storm water and wastewater releases to applicable municipalities (e.g., City of Manhattan and Salina). EHS provides hazardous materials release response services and is available 24/7 for call back and/or on-site response.

### Regulated Waste Management

This year the hazardous waste processing operations were moved from King Annex to the Kimball hazardous waste storage site (occupying the new hazardous materials buildings). The Contingency Plan was updated and multiple tours were provided to Manhattan Fire Department.

Completed large and small quantity generator reports March 2017.

In calendar year 2017, over 60,000 pounds of hazardous waste (HW) and recyclables were disposed or processed by EHS. Table 2 provides a nine-year look at the annual waste generation totals.

*Table 2 Nine Year Hazardous Waste Generation Summary*

Year	2009	2010	2011	2012	2013	2014	2015	2016	2017
<b>Tons</b>	18	24	23.4	25.1	26	18.7	28	31	23

### CY2017 Waste Generated

23 tons hazardous waste

30 tons universal waste (light bulbs, batteries, latex paint, oil, and pesticides/toxic chemicals)

\$139,799.29 Total HW Charges

### Waste Management Activities

#### FY17

1,327 Waste pickups by EHS

1,870 Chemicals (or chemical groups) logged and processed.

\$21,487.09 Chargebacks for HW, medical waste and lighting waste (non-academic/research).

\$13,955.36 Additional chargebacks (includes non-waste related expenses\*)

Special hazardous waste disposal (non-routine and/or high hazard)

Storage tank fees \*

Construction related waste chargebacks (\$8290.00 - mercury-contaminated flooring)

324 lbs      **CY16** unregulated waste managed at the KSU drop-off point for the Riley County Household Hazardous Waste program. Riley County did not provide totals for CY17.

### Sharps and Biohazard Disposal

Developed Biohazardous and Sharps Procedures document in 2017.

CY16	CY17	
1245	724	Number of containers
\$23,202	\$13,770	Direct Costs

### Training CY17

- 9      Hazardous Waste Awareness in-person trainings conducted  
147    People trained
- 2      8-hour HAZWOPER courses taught (Global Campus course)  
45      People trained
- 1      Chemical and waste management awareness custom training (chem-bio)
- 2      Chemical security training presentation provided (Associate Deans of Research & Campus EHS Committee)

### Fuel Storage Tanks

K-State has ~101,480 gallons of fuel storage (total volume). EHS manages the fees and reporting for 22 regulated fuel storage tanks. The required annual report was submitted February 2017.

- 5      underground storage tanks
- 17     above ground storage tanks

### Air Permit

The revised Title V air permit, finalized in December 2016, resulted in an increase of tracked emission sources from 6 to 127 emission units requiring record-keeping, monitoring and emissions reporting. The increased regulatory burden significantly changed staff time commitment requirements. One Hazardous Waste Technician now dedicates ~ 75% of time to air regulation requirements.

### CY17 Activity

- 2 new emergency generator applications (Student Union and Swine Unit)
- Greenhouse gas report (March)
- Air Emissions inventory (March) and semiannual reports (April and September) submitted
- KDHE air permit compliance inspection (September) resulted in Letter of Warning related to lack of access (by inspector) to equipment and records and minor record keeping issue. Responses provided November.
- 1 permit application determination for paint booths at Seaton Hall.

### Landfill Abatement Site

FY16 direct costs totaled approximately \$73K. This does *not* include cost of EHS staff labor. There is a general decline of groundwater contaminant levels at the site; however, chemicals of concern such as 1,4 dioxane remain at concentrations above acceptable regulatory limits.

### Sampling and Reporting

Two sampling events completed per year and annual reports submitted by consultant. EHS conducts two wastewater sampling events per year and incurs lab charges reflected in operational costs.

#### FY16

\$59,891 Consultant Services

#### FY17

\$60,153 Consultant Services

### Permit Fees, Utilities & Operational Costs

#### FY16

\$3,387 Electric Utility

\$4,198 City Wastewater Discharge fees

\$552 Telecom

\$2,651 Bulk materials (hydrogen peroxide) & O&M Supplies

\$1,569 KDHE permit & oversight fees

\$12,357 Total direct costs

#### FY17

\$3,915 Electric Utility

\$4,919 City Wastewater Discharge fees

\$595 Telecom

\$12,474 Bulk Materials, Equipment and Supplies (O&M)

\$2,411 Miscellaneous Charges (including state regulatory permit fee)

\$24,314 Total direct costs

### Ashland Bottoms

October 20, 2017, EHS responded to a 1500 gallon urea ammonium nitrate spill at Ashland Bottoms. The on-going cleanup is being conducted by the College of Agriculture. Groundwater monitoring for a historic underground storage tank fuel release is on-going and cost neutral (paid by state fund).

## Occupational and Research Safety

Occupational Safety, Industrial Hygiene, and Laboratory Safety staff within EHS delivered a variety of safety services to the institution in 2017. While most services represent a continuation of existing practices and programs, some novel initiatives were undertaken, principally safety shower testing, expansion of the respiratory protection and laboratory safety programs.

EHS revised the job duties of a vacant EHS position to better serve the needs of an evolving complexity of research at KSU. The position of Associate Director of Research Safety and Industrial Hygiene was created and ultimately filled in the final quarter of 2017. Joseph Barbercheck will lead this effort.

EHS took over the safety and compliance program management for the Facilities Management division and integrated related staff (2 FTE) into the EHS department. The subsequent vacant safety manager position was filled in the final quarter of 2017 to lead industrial safety needs for KSU. Aaron Wilkins will support the Facilities Management safety program, but will expand these services to meet industrial and process safety needs of the entire KSU community including academics, research, housing and dining.

Oversight of the FM training, on-boarding (photo ID, orientation training, hazard assessment, certifications training/confirmation & post hire medical), equipment and facility safety and compliance inspections are now managed by EHS.

### Regulatory Inspections

KDOL conducted one safety inspection on the Salina campus, which was focused solely on the Facilities Support areas as part of the SHAPE voluntary state program. No significant findings were cited.

### Laboratory Safety

Developed and obtained stakeholder input for a Laboratory Safety Manual. The manual was posted as an interactive website in December 2017 and is also available as a downloadable PDF. EHS also implemented a standardized laboratory signage system (vetted by stakeholders in 2016) that integrates a laboratory registration as part of a submitted fillable form. The information collected through the registration process is provided to KSU PD to inform emergency response and is available to inform EHS and MFD responders about hazards present in the lab.

### Laboratory Registrations

294 laboratories registered with EHS through the new system. Emergency contact information from the registration process was provided to KSU Police Dispatch.

### Fume Hood Management

EHS conducts annual inspection and flow testing of fume hoods on the Manhattan and Salina campuses. There are 551 documented fume hoods at K-State. *Not all were functional in 2017.* In 2017, 434 fume hood tests were conducted by EHS (on 362 functioning hoods). 65.7% of the total hoods on campus were inspected at least once within a 12 month period. 116 mechanical deficiency failures and 25 user non-compliance related failures were recorded. 44 units were repaired in 2017 through FM or contracted services. In 2017, a self-paced fume hood user training was developed and placed online.

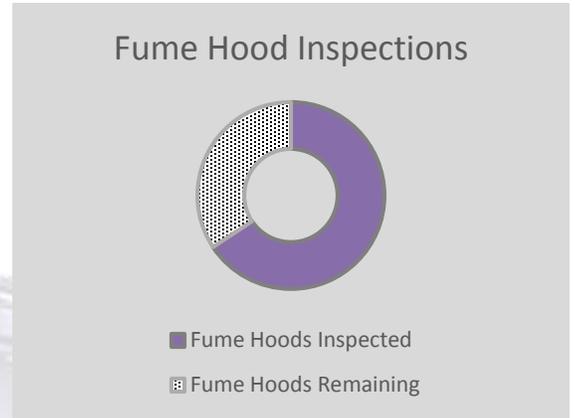


Figure 2 Annual Fume Hood Testing

### Emergency Shower Inspections

Inspection of safety showers has not been an established practice prior to 2016 due to resource constraints and lack of user awareness. In 2016, an initiative was undertaken to begin a program of basic testing, consisting of flushing the shower and instructing departmental personnel on how to perform this test going forward. This required coordination with both departmental personnel and plumbing staff from Facilities. As this is a novel initiative that requires the participation of multiple parties, the pace of progress has been deliberate. EHS has identified 317 safety showers on campus.

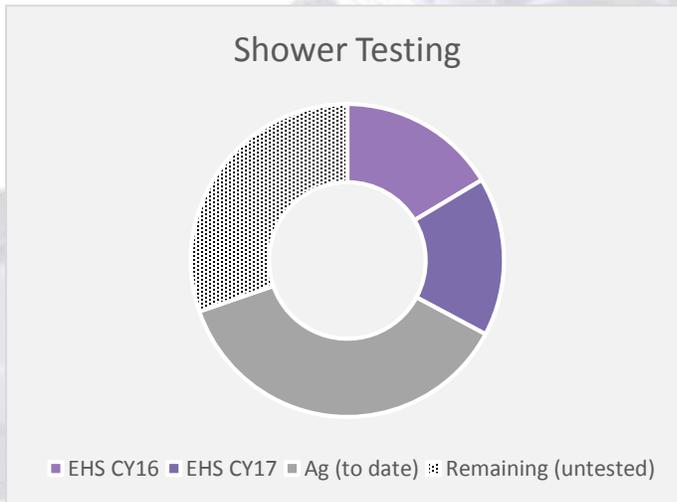


Figure 3 Shower Testing

To date, ~70% of identified 317 emergency showers on central campus have been flushed. College of Agriculture safety personnel have flushed 117 units to date. EHS has flushed 104.

Shower Testing	
Entity and Year	Number
EHS CY16	52
EHS CY17	52
Ag (to date)	117
Remaining (untested)	96
<b>Total Known Units</b>	<b>317</b>

### Personnel Safety Equipment Inspections

- 29 Fall Protection Equipment inspections
- 60 Electrical Gloves change out twice a year
- 12 SCBA equipment inspections (monthly)

## Training and Outreach

The Vivid Learning Management System was implemented in March 2017. Other trainings are delivered in person by EHS. The Vivid membership/license includes EHS, College of Engineering and College of Agriculture. The EHS portion is used to provide training to VPAF employees and to those requiring a specific online training that is not offered elsewhere such as respiratory protection. A single sign-on for Vivid was developed through IT and an additional programming project was completed to automatically download training completion data into HRIS from Vivid. CY2017 cost was \$17,500 (EHS portion \$6900).

## Facilities On-Boarding

Facilities management new employees go through an all-day orientation conducted every Monday that is facilitated by EHS at Dykstra (hybrid online trainings with in-person supervision and technical support). In CY17 this included:

- 46 Full/Temp employees trained
- 24 Student employees trained

## Online Training (Vivid)

The implementation of Vivid involved collaboration with IT, HCS and the implementation of an MOU with the College of Engineering and College of Agriculture. Safety representatives from the College of Veterinary Medicine were provided access to pilot the program. In CY17:

- 1560 Employees enrolled in the Vivid online training system
- 2330 Training courses were completed online (Vivid) in 29 topic areas
- 33 Courses were added to HRIS for records download from Vivid

## In-Person Trainings Delivered or Coordinated

EHS conducts or coordinates in-person safety training upon request, on a monthly basis (HW, HazCom, Fire Extinguisher, Radiation Safety), or as part of services to Facilities Management. Some training metrics are reported in other sections of this report.

- 1143 Facilities employees trained on 43 safety areas - see Table 3
- 338 Van Driving Safety
- 16 Fork Lift Training classroom and field driver evaluation
- 8 Respirator training
- 9 Courses added to HRIS tracking
- 6 Hazard Communication trainings were delivered (in person) between July - December 2017.
- 1 Fume Hood self-paced training developed and posted on website.
- 1 Safety Climate training presentation coordinated (through physiology department for campus EHS Committee)
- 2 First responder awareness trainings were conducted for all Police staff including dispatch.

Table 3 In-Person Facilities Training 2017

Course Title	Total
AHERA-Asbestos Worker I Refresher (8 Hrs)	39
Fork Lift Safety Training	4
Fork Lift Training, Driving Evaluation.	13
AHERA-Asbestos Worker I Training (32 hrs)	8
AHERA-Asbestos Contractor-Supervisor Refresher (8 hrs) Refresher for Worker II	3
Van Operator Training	6
Respirator Training	14
Ladder Safety	1
Asbestos O&M Refresher	2
Safety & Health Orientation (New Hire before vivid)	24
BBP Emergency Team Training (Before Vivid)	8
Excavation/Trench Competent Person	3
Confined Space Competent Person - 8 hrs.	10
Fluke Volt Meter Training	4
Confined Space Awareness	9
Fall Protection Plus - 8 Hrs.	9
Fall Protection/Fall Arrest Systems Training	9
Bucket Truck Aerial Lift Training	9
Excavation Trench Awareness	14
Scaffolding Awareness Training	7
Scaffolding 8 Hr.	8
Bucket Truck 8 hr	6
OSHA Safety Training 2014 (Ergonomics)	5
Snow Removal W/ Snow Blowers	4
Air Monitoring QRAE3	15
Bat Handling	18
Bird and Rat Droppings Cleanup	10
Aerial Lift Performance Eval.	2
Arc Flash 2016	6
Asbestos Awareness 2017	175
Asbestos Trng Project Managers	10
NFPA70E Lockout-Tagout 2017	57
S&C Vista Distr Switchgear	11
Cranes & Hoists Training	46
Radiation Training 2017	184
Safety Fair 2017	219
Haz Energy LOTO Seminar KMTRB	1
Fire Extinguisher TRN 2017	80

Cross Connection and Backflow Prevention	11
APPA	1
Supervisors Toolkit APPA	42
Hearing Evals	33
<b>Total</b>	<b>1143</b>

### Incident Reporting and Investigations

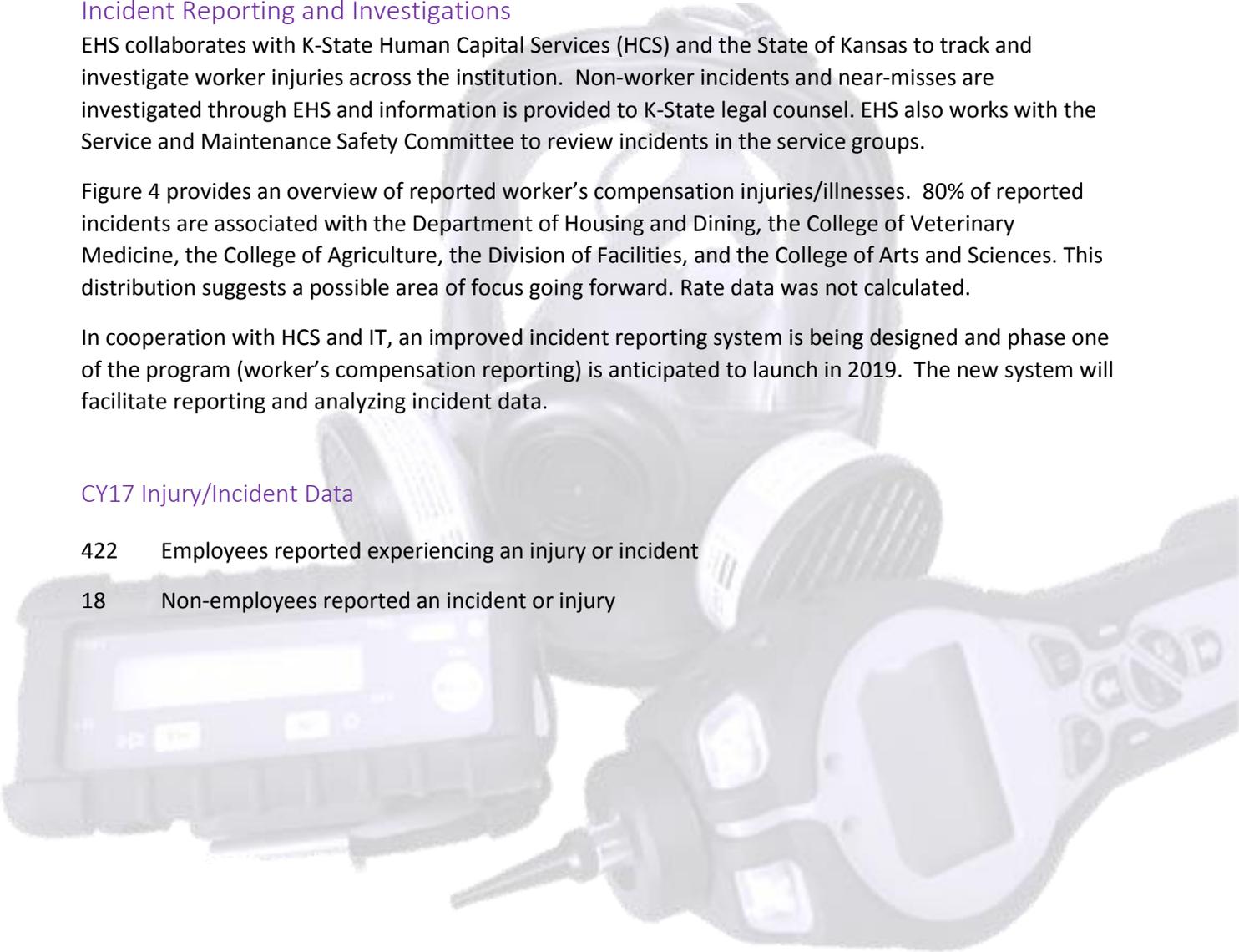
EHS collaborates with K-State Human Capital Services (HCS) and the State of Kansas to track and investigate worker injuries across the institution. Non-worker incidents and near-misses are investigated through EHS and information is provided to K-State legal counsel. EHS also works with the Service and Maintenance Safety Committee to review incidents in the service groups.

Figure 4 provides an overview of reported worker’s compensation injuries/illnesses. 80% of reported incidents are associated with the Department of Housing and Dining, the College of Veterinary Medicine, the College of Agriculture, the Division of Facilities, and the College of Arts and Sciences. This distribution suggests a possible area of focus going forward. Rate data was not calculated.

In cooperation with HCS and IT, an improved incident reporting system is being designed and phase one of the program (worker’s compensation reporting) is anticipated to launch in 2019. The new system will facilitate reporting and analyzing incident data.

### CY17 Injury/Incident Data

- 422 Employees reported experiencing an injury or incident
- 18 Non-employees reported an incident or injury



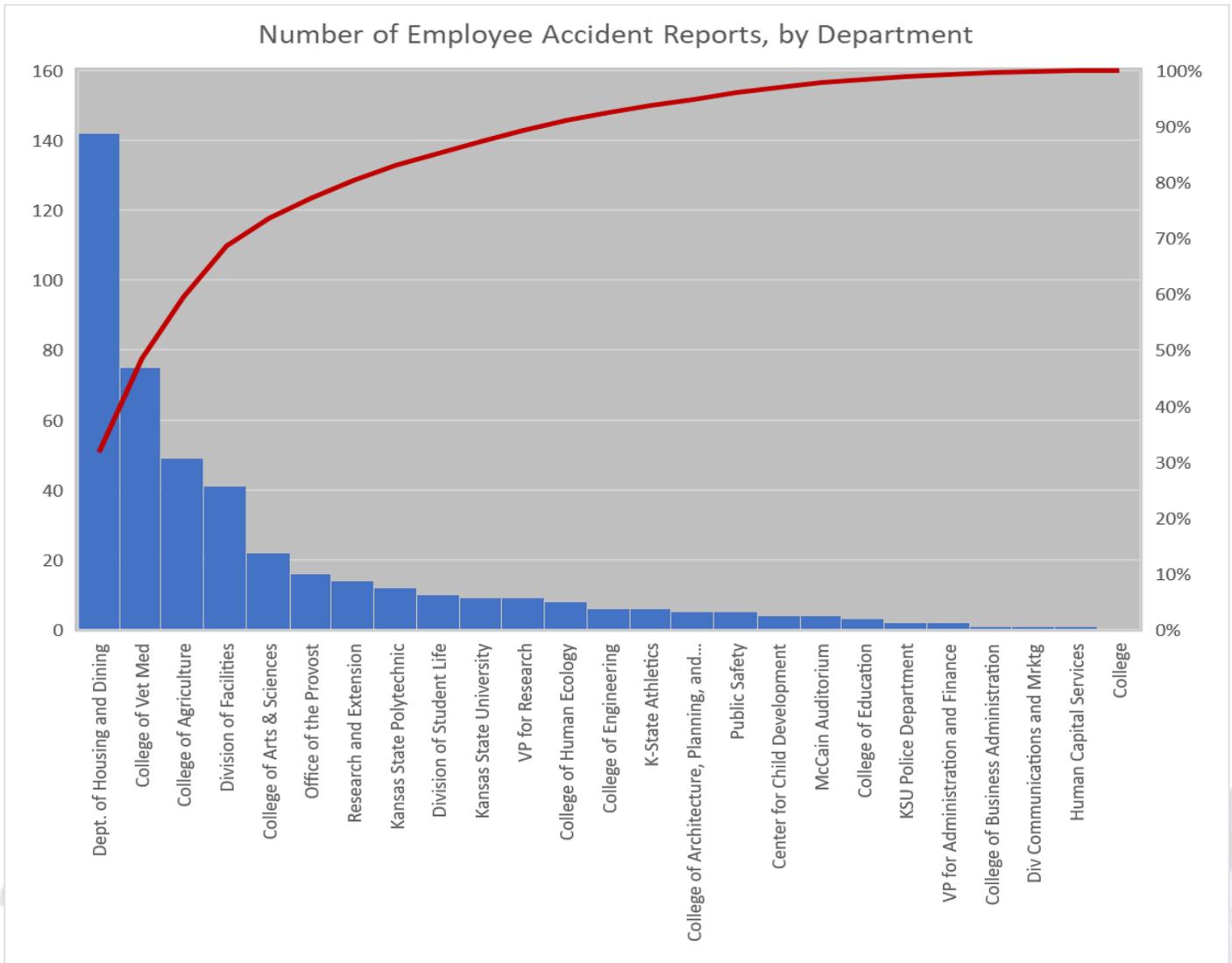


Figure 4 – Reported 2017 Worker Injuries

### Respiratory Protection

Developed a centralized KSU respiratory protection program and related reporting forms. Purchased (in collaboration with College of Agriculture) fit test equipment and began conducting quantitative fit tests.

- Drafted written program plan.
- Posted website.
- Secured online training through Vivid Learning Systems.
- Revise schedule of charges.
- Started quantitative fit testing (20 conducted CY17)
- 44 fit tests conducted
- 88+ respirator medicals and clearances processed

## Exposure Assessments

EHS conducted five unique exposure assessment sampling events to investigate employee and student chemical exposures to compounds such as formaldehyde, xylene, toluene, and chloroform. Those samples are summarized in the chart below (Figure 5).

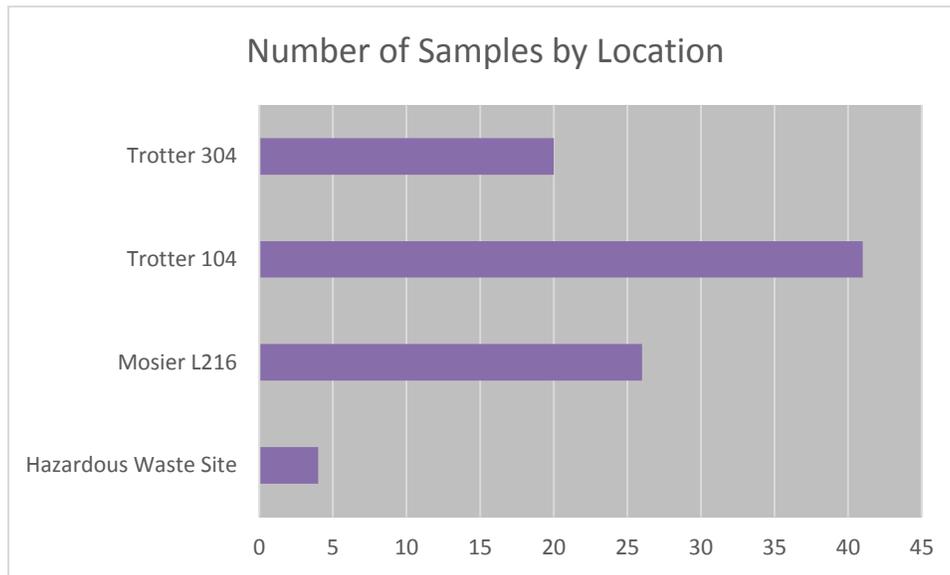


Figure 5 - Industrial Hygiene Sampling 2017

EHS responded to various issues related to indoor air quality, ranging from chemical odors, observations of mold, to reports of employees experiencing various symptoms. EHS performed site inspections, testing or sampling, reported findings and communicated recommendations or corrective actions as applicable. Additional assessments, investigations and requests for consultations ranged from review of proposed research activities (risk assessment and recommended controls), to investigating worker injury incidents. Table 4 provides a non-exhaustive summary of assessment and investigation activities in 2017.

**NOTE: Table 4 content is redacted for web publication for the privacy of EHS customers.**



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## Construction Safety and Compliance

### Asbestos

EHS provides oversight for all asbestos related projects for the University. This includes the Division of Facilities, the Department of Housing and Dining Services, Athletics, the K-State Union, Hale Library, the Foundation Center, and outside contractors working on campus. Both direct and labor costs are charged to customers with few exceptions. Funded capitol construction projects provide a line item for EHS services and are not separately billed. The services that are provided include bulk samples (polarized light microscopy analysis) for each job, inspection for the location of asbestos (visual) and air quality (phase contrast microscopy analysis).

61 Requests for inspection completed

254 Asbestos samples collected

Direct costs: \$1,270 (42 invoices)

Chargebacks: \$5,559 (53 projects)

## Radiation Safety

The EHS radiation safety program has responsibility for the oversight and compliance assurance for the University's State of Kansas Radioactive Materials License, including reviewing issues related to the nuclear reactor. EHS personnel fulfil the role of Radiation Safety Officer (RSO) and Assistant Radiation Safety Officer (per license requirement) for the campus, reactor (under federal regulatory oversight) and at least one commercial venture of a K-State affiliate. The RSO serves on and reports materials and license activities to the K-State Radiation Safety Committee. All radioactive material shipments are centrally received by EHS. Radioactive waste is also managed and processed by EHS. CY17 radiation safety activities are summarized below.

107 Pre-award grant submittals reviewed by Radiation Safety Officer.

### Radioactive Materials Deliveries

#### **CY17**

96 Radioisotope packages processed (receive, test, document, verify permit, and deliver to user).

### Waste Management

EHS manages radioactive materials waste and disposal for K-State. Most of the waste generated on campus is stored on-site for radioactive decay in storage.

#### **CY17**

120 Waste packages were collected for decay and storage (31 radioactive waste pick-ups)

88 Waste packages were disposed (following decay and testing)

No direct costs

No radioactive waste was shipped off site for contractor disposal in CY2017.

### Special Projects

- Obtain separate Radioactive Materials License for the radon device calibration facility (Unger Complex)
- Secure approval from state for accelerator facility shielding plan (King Annex)

### Compliance Testing

EHS tests for contamination and source leaks in locations where radiation sources or radioactive materials are used on campus.

#### FY17

2112 Contamination swipe samples were collected from radioisotope use locations.

Direct costs: \$8,448 (\$4/sample)

Chargebacks: \$ 384

260 Leak tests conducted

Direct costs: \$11,180 (\$43/sample)

Chargebacks: \$168

### Survey Meter Service

All radiation survey meters must be examined and calibrated annually. EHS manages these services for radiation users. There is no labor charge for the tracking and collection of instruments. Costs are for contracted calibration services.

#### FY17

70 radiation survey meter calibrations

Direct costs: \$11,340 (\$189/unit)

Chargebacks: \$ 189

### Dosimetry

The EHS monitors personnel exposure to radiation through the dosimetry program. There are 631 people participating in the dosimetry program. New dosimeters (radiation badges) are disseminated to the users by EHS every month or quarter (EHS visits every location to exchange badges) and old badges are collected and sent for testing. Labor costs are part of chargebacks for billable groups. There are roughly 3359 dosimeters used on campus.

#### FY17

Direct Costs: \$ 5,871

Charge backs: \$12,767

## Radiation Source Devices

K-State has 74 generally licensed radiation devices. Additionally, all x-ray producing devices and accelerators (radiation generating devices) at K-State are registered with the State of Kansas through EHS. In FY17 there were 39 registered devices managed by EHS. There are no labor charges for this service. Costs are for registration with the state.

### CY17

33 X-ray Devices (38 tubes)

6 Accelerators

Direct Costs: \$2,245

Charge backs: \$2,245

## Radiation Training and Outreach

Radiation Safety Training (in-person courses for rad users)

### CY17

63 Participants (13 sessions) – Unsealed Sources

27 Participants (11 sessions) – Sealed Sources

## Laser Safety

CY 2017 progress on laser safety focused on reviewing the Vivid online training and working on a draft addition to the training to detail K-State specific information within the Vivid training.

## Biological Safety

### Institutional Committee Participation

EHS participates (1-2 members) as voting members of several institutional committees. The following summarizes related work activities of the EHS Biosafety Officer.

#### IACUC

89 Initial protocol reviews

140 full committee reviews

7 days of IACUC site visits (inspections)

#### IBC

90 protocol reviews

19 Laboratory Inspections

## Sanitation

EHS provides sanitation consultation and sampling to avoid the spread of illness. One EHS staff member serves as the Sanitation Officer for K-State. They no longer maintain their professional registration.

## Biological Sampling

EHS performs biological sampling (media and swipe samples) at athletic facilities to include laundered towels to assess the effectiveness of cleaning and sanitation practices and avoid the spread of illness/disease. Samples analyzed in house so direct costs are minimal. Labor is not charged back currently for these services. Biological Sampling at Athletic and Recreational facilities accounted ~108 sample collection events (inspections).

Locations Sampled:

### Intercollegiate Athletics

- Ahearn Training Room
- Basketball Training Room
- Bramlege Training Room
- Rowing Facility
- Football Training Room

### Recreational Services

- Peters Recreation Complex
- Kinesiology (Life Program at Ahearn)

Bramlege Complex (water sampling)

Ahearn Complex (locker rooms)

EHS Labor: ~360 hrs (30hrs/month)

## Food Events

EHS provides consultation and approval of event food activities to ensure appropriate sanitation practices. As of 2016, EHS no longer conducts annual inspections of food establishments on campus because the State Department of Agriculture is charged with conducting food inspections of commercial food facilities.

193 ▶ Food Events Reviewed

# Appendix A

