

# 2015 OSEH ANNUAL REVIEW

May 2016

UNIVERSITY OF MICHIGAN

ANNUAL REVIEW

## Note from the OSEH Executive Director

This is our first annual report of metrics, aimed to inform our campus community on the activities associated with the department of Occupational Safety & Environmental Health (OSEH) support of the University of Michigan mission of education, research, public outreach, and medical care. Our OSEH mission is to promote health, safety, and environmental responsibility through partnerships, guidance and other activities to meet the needs of the University. This report highlights some of our major accomplishments and improvements over the past year—namely in the area of research safety.

Efforts to enhance the culture of research safety on campus kick-started in 2015 with a message from President Schlissel about the importance of safety in our research areas. OSEH and the UM Office of Research, jointly prepared and issued the U-M Research and Academic Safety Policy. The newly formed Laboratory Research Safety Committee (LRSC) provides safety support to the campus research activities. In 2016, the LRSC will focus on establishing safety committees within each school or college with active research. These safety committees will be key in enhancing the culture of safety through education, compliance and partnership, and provide a direct link between the researcher and safety programs happening around campus.

## Laboratory Incident and Near Miss Reporting

Reporting incidents and near misses that occur in the research setting is an essential tool for OSEH to help understand issues arising for our researchers. This allows us focus our efforts through educational materials and guidance to help prevent and eliminate future issues across campus. The reporting form link can be found on our home page at [www.oseh.umich.edu](http://www.oseh.umich.edu).

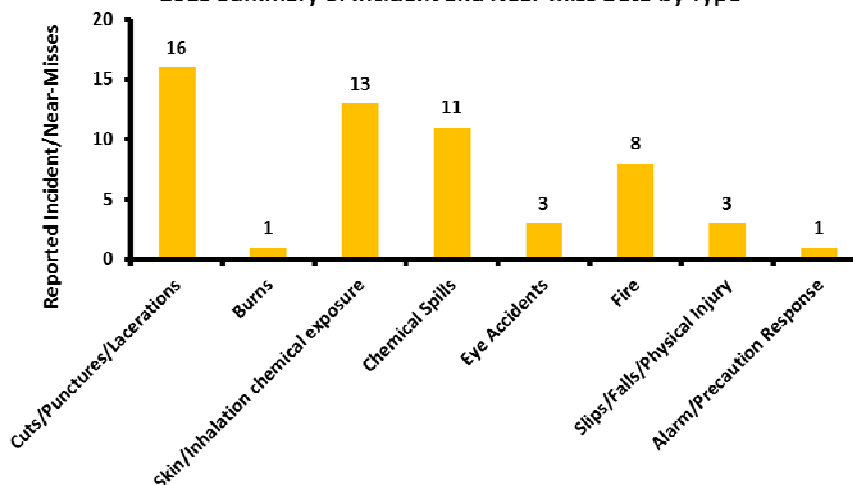
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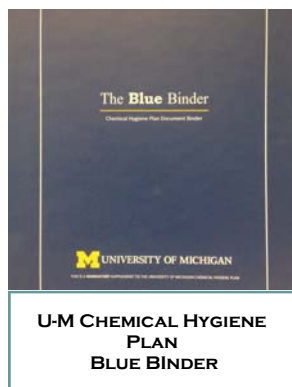
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### 2015 HIGHLIGHTS

- ◆ Kickoff of Research Safety Culture Campaign with message from President Schlissel.
- ◆ Updated SPG 605.01 Safety, Health and Environment to clarify safety responsibility for all members of campus community.
- ◆ Research and Academic Policy issued jointly by UMOR and OSEH.
- ◆ Establishment of the Laboratory and Research Safety Committee.

2015 Summary of Incident and Near-miss Data by Type





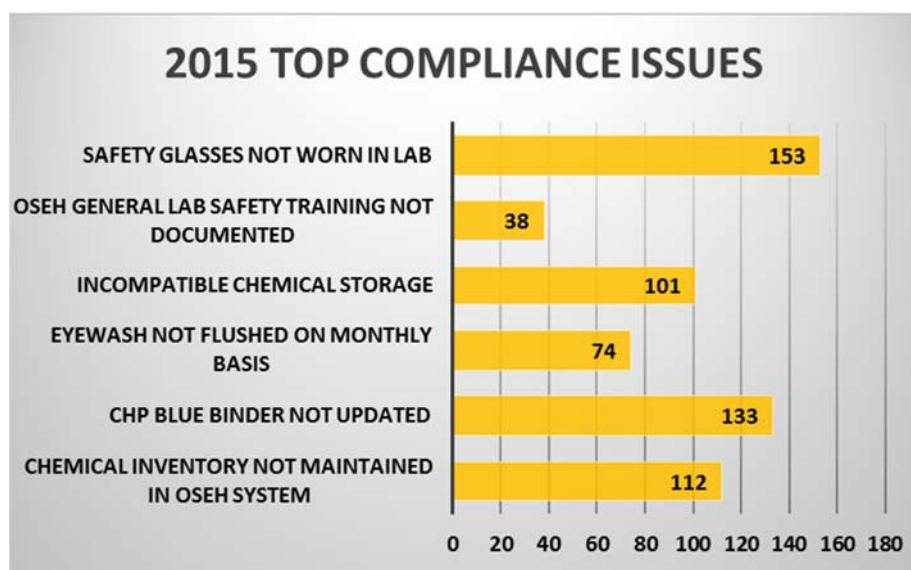
## 2015 Laboratory Inspections

The addition of several new safety staff members to our inspection team helped OSEH move closer to our risk based inspection frequency in 2015. The data is shown on Page 3.

Laboratory space on campus has been assigned a Lab Hazard Ranking (LHR) of 1 to 4, with 4 being the highest risk level. Each LHR has been assigned an inspection frequency ranging from every 6 months up to 24 months based on the relative risks. This allows OSEH to prioritize our inspection resources effectively.

## Laboratory Inspection Compliance Issues

THE MOST COMMON  
FINDING DURING  
GENERAL LAB  
INSPECTIONS WAS  
SAFETY GLASSES  
NOT BEING WORN IN  
THE LAB.



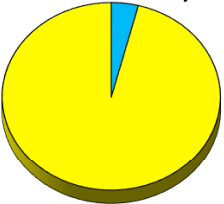
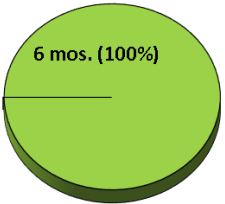
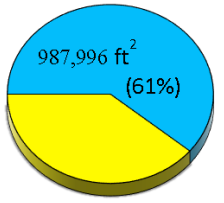
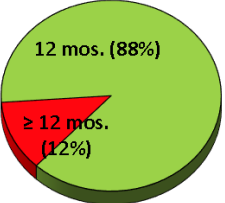
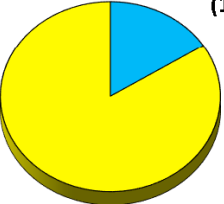
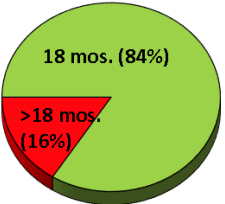
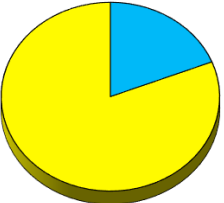
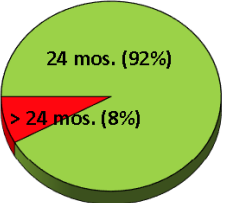
## Laboratory Safety Training



General Laboratory Safety Training is required for all individuals who work in a research laboratory. Historically, this was an instructor led course provided by OSEH personnel. In 2015, we switched to only offering the course on-line as it was the preferred method of the vast majority of attendees. This allowed our inspectors to dedicate more time to work with the PI in the research area. The data in the table shows the training activity over a three year period.

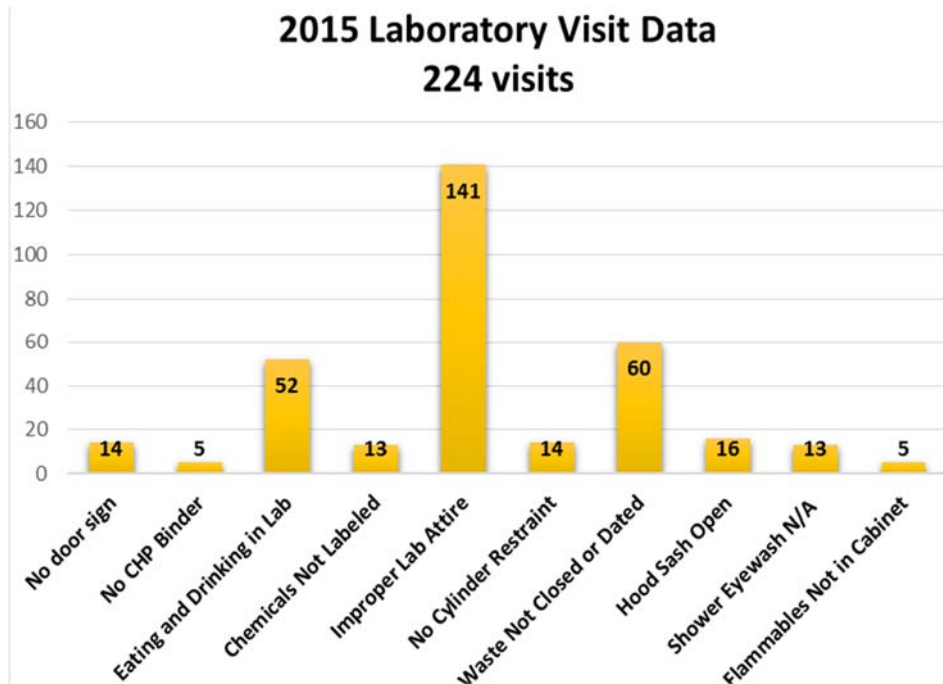
## 2015 All Laboratory Safety Inspection Performance (Lab Sq.Ft. Data)

Deficiencies and Inspection Frequency goals met are for each frequency period ending on December 31<sup>st</sup>, 2015. i.e. the LHR 2 data is for the 18 month period ending on 12-31-2015.

LAB HAZARD RANK	LAB SQUARE FOOTAGE	INSPECTION FREQUENCY	DEFICIENCIES
LHR 4	 <p>61,372 ft<sup>2</sup> (4%)</p>	<p>Frequency goal = every 6 mos.</p>  <p>6 mos. (100%)</p>	<p><b>Critical Deficiencies 3</b></p> <p>Standard Deficiencies 117</p> <p>1.95 Deficiencies/1000 ft<sup>2</sup></p>
LHR 3	 <p>987,996 ft<sup>2</sup> (61%)</p>	<p>Frequency goal = every 12 mos.</p>  <p>12 mos. (88%)</p> <p>≥ 12 mos. (12%)</p>	<p><b>Critical Deficiencies 35</b></p> <p>Standard Deficiencies 3921</p> <p>4.54 Deficiencies/1000 ft<sup>2</sup></p>
LHR 2	 <p>263,883 ft<sup>2</sup> (16%)</p>	<p>Frequency goal = every 18 mos.</p>  <p>18 mos. (84%)</p> <p>&gt; 18 mos. (16%)</p>	<p><b>Critical Deficiencies 1</b></p> <p>Standard Deficiencies 845</p> <p>3.81 Deficiencies/1000 ft<sup>2</sup></p>
LHR 1	 <p>298,794 ft<sup>2</sup> (19%)</p>	<p>Frequency goal = every 24 mos.</p>  <p>24 mos. (92%)</p> <p>&gt; 24 mos. (8%)</p>	<p><b>Critical Deficiencies 3</b></p> <p>Standard Deficiencies 404</p> <p>1.47 Deficiencies/1000 ft<sup>2</sup></p>
TOTALS	1,612,045 ft <sup>2</sup>	Met Frequency Goal = 89% (1,430,527 ft <sup>2</sup> )	<p><b>Critical Deficiencies 42</b></p> <p>Standard Deficiencies 5287</p>

## Laboratory Visit Program

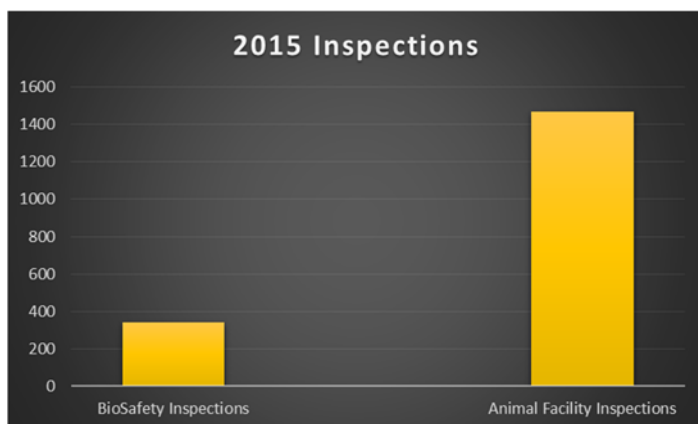
OSEH also manages a Laboratory Visit Program where visits are conducted to observe daily work practices within the lab on a non-scheduled basis. A ten point checklist is filled out based on brief observation of the space at that point in time. The data below shows the compliance issues observed during lab visits in 2015.



**THE MOST COMMON FINDING DURING UNANNOUNCED LAB VISITS WAS IMPROPER LAB ATTIRE – INDIVIDUALS WORKING WITH CHEMICALS MUST WEAR CLOSED TOE SHOES AND CLOTHING THAT COVERS THE LEGS**

## Biological Safety

The Biological Safety Program focuses inspections on biohazardous materials used on campus. This program is responsible for the occupational health and safety program for our animal handlers in support of the UM Institutional Animal Care and Use Committee, as well as support of the UM Institutional Biosafety Committee. Another large component of the biological safety program responsibilities includes the certification of engineering control equipment such as fume hoods and biosafety cabinets used on campus. The tables below show the inspection and equipment testing activity during 2015.





RSS RECEIVES ALL  
RADIOACTIVE  
MATERIAL  
PACKAGES,  
CHECKS THEM FOR  
CONTAMINATION,  
AND DELIVERS TO  
LABS

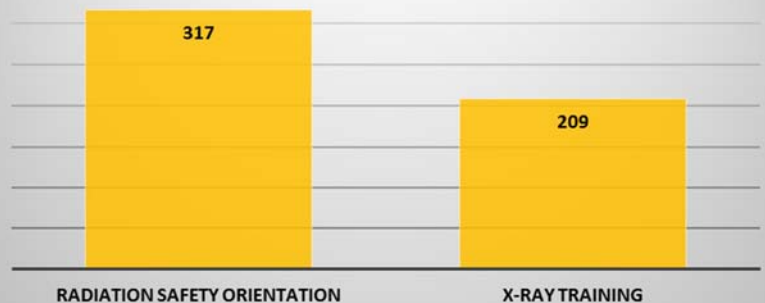
## Radiation Safety

Radiation Safety Services oversees safe use of radiation producing devices, isotopes, lasers and irradiators on campus. Activities of RSS include various inspections as well as training on radioactive material, lasers and X-rays. The data below shows the activity during 2015.

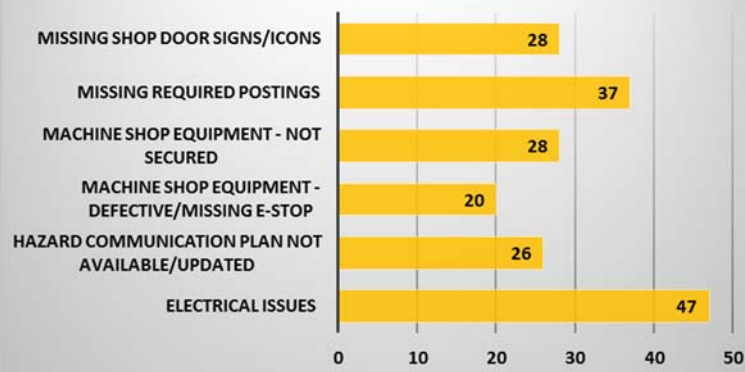
### 2015 Radiation Safety Inspections



### 2015 Radiation Training (# of attendees)



### 2015 TOP COMPLIANCE ISSUES



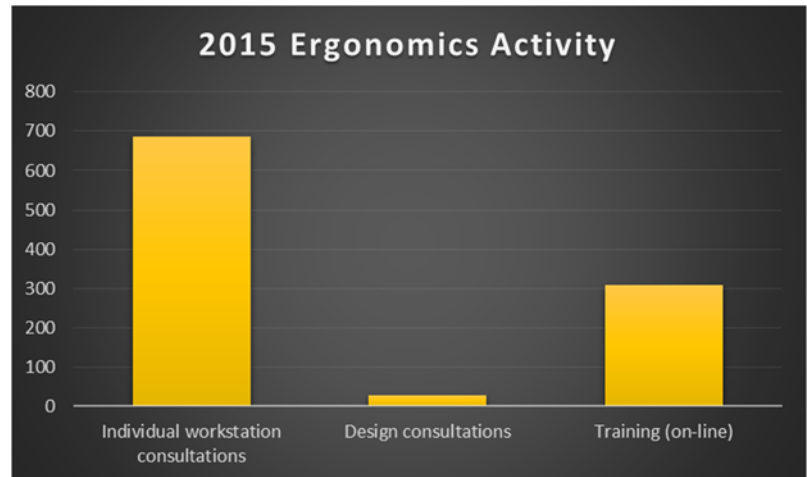
## Shop Safety

OSHA inspectors look at activities in various studios, workshops, and machine shops around campus. Electrical issues were the most frequently identified problems in shops on campus in 2015. Electrical issues include the following: damaged cords, improper use of extension cords, no Ground Fault Circuit Interrupter when used within 6 feet of water, blocked access to electrical panels, missing outlet covers, etc. These issues may lead to electric shock and/or fires if left uncorrected.

## Ergonomics

The ergonomics program at OSEH focuses on prevention services for campus faculty and staff interested in preventing physical discomfort associated with performing duties and tasks associated with their job.

Services provided include training programs, self-help tools, individual workstation consultations and departmental design consultations..

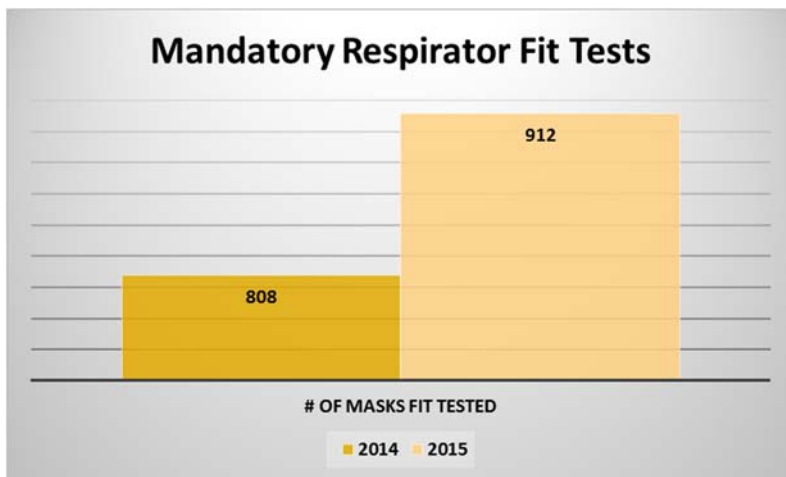


## Respiratory Protection

All users of respirators must be included in the OSEH respiratory program. Medical clearance is necessary for all users of respirators with the exception of dust masks for nuisance dust control. Fit testing of the mask to the user is also a key component in assuring that the respirator is able to effectively provide the protection desired. Mandatory users of tight-fitting respirators are required to obtain annual fit tests through OSEH.

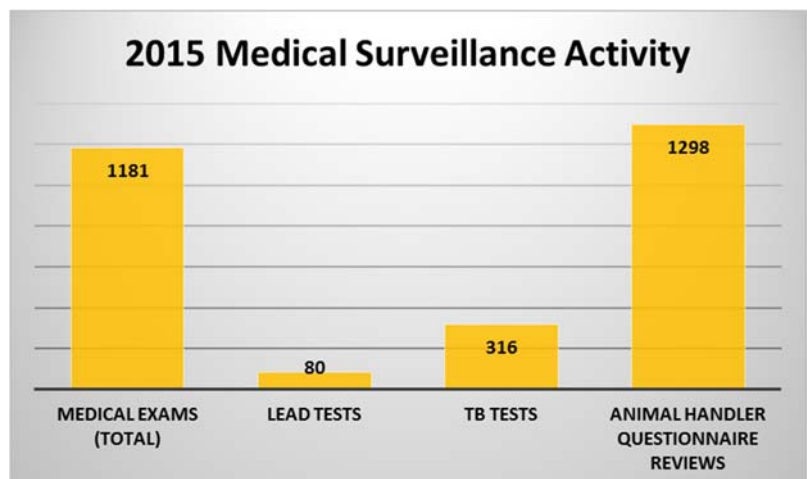


**MEDICAL CLEARANCE AND FIT TESTING IS NEEDED TO WEAR A RESPIRATOR**



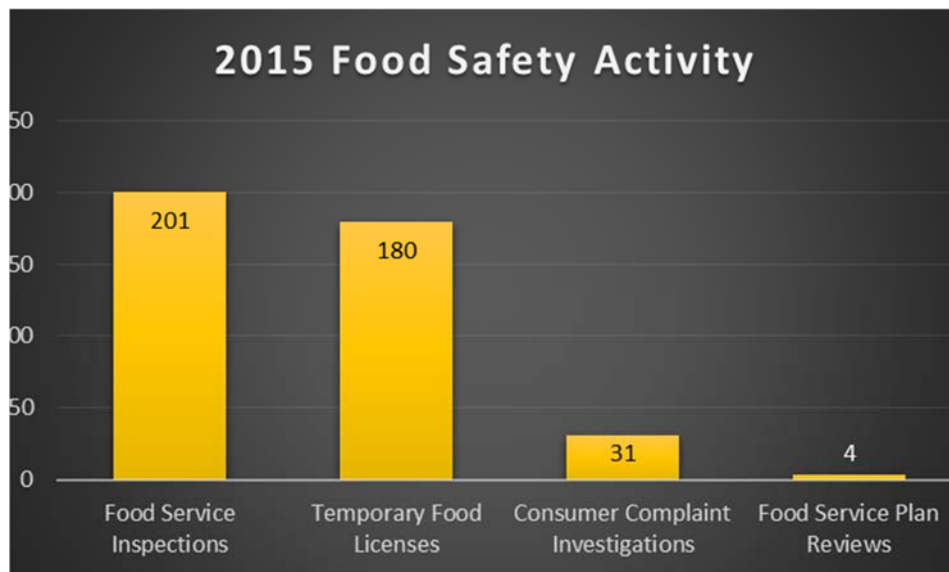
## Medical Surveillance Program

OSEH coordinates with UMHS Occupational Health Services (OHS) to provide medical surveillance services to over 6000 University employees who have the potential for occupationally related stressors or illness. This program provides physical examinations and other relevant testing to assure optimal health for staff.



## Food Safety

Food is a very important part of our culture on campus, whether dining in the residence halls, having lunch at one of the Unions or being a patient or visitor to the U-M Health System. U-M is dedicated to protecting the community and OSEH has the authority through agency agreements to license and inspect all food service establishments on campus to assure they meet applicable state and federal regulations. This also includes temporary food service events such as the food vendors at home football games, the Ann Arbor Art Fair and student organization events.



## Campus Sustainability

In October of 2009 President Mary Sue Coleman elevated the level of commitment toward sustainability by creating the Office of Campus Sustainability and endorsing an effort to set university-wide goals to be achieved by 2025. Our progress to date can be found within our Annual Reports at: <http://sustainability.umich.edu/about/annual-report>

To further University of Michigan excellence in the field of Environmental Sustainability, the President and Executive Officers have implemented an organizational framework to accomplish the following:

Inspire students, faculty, and staff to become involved in helping to solve the environmental sustainability issues facing the campus and the world we live in;

Theme	2025 Goals
Climate Action	Reduce Green House Gas emissions by 25%. Decrease carbon intensity of passenger trips on U-M transportation options by 30%.
Waste Prevention	Reduce waste tonnage diverted to disposal facilities by 40%.
Healthy Environments	Purchase 20% of U-M food according to Sustainable Food Purchasing Guidelines. Protect Huron River by reducing run-off and reducing chemicals used on campus by 40%.
Community Awareness	Invest in programs to educate our community, track behavior, and report progress over time.

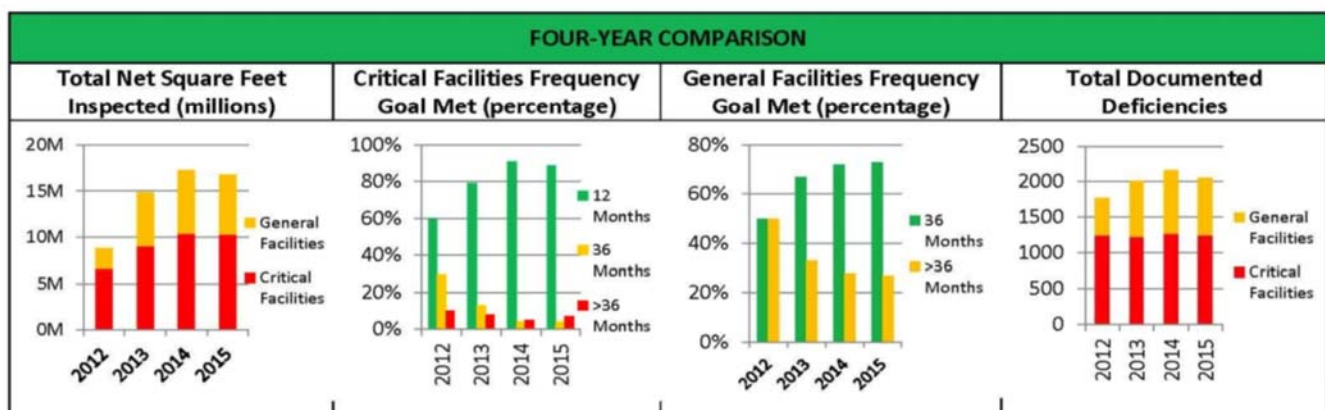


## Fire and Life Safety

Fire Safety Service (FSS) is responsible for ensuring compliance with applicable fire safety regulations on the UM campus. FSS Inspectors conduct facility fire safety inspections and drills, plan reviews for construction projects, provide interpretation regarding code requirements and intent, and develop awareness programs. The FSS Fire Marshal is the "Authority Having Jurisdiction" (AHJ) over operational considerations.

### CY 2015 U-M Fire Safety Inspection Performance Dashboard

FACILITY RANK	NET SQUARE FOOTAGE <sup>1</sup>	INSPECTION FREQUENCY	2015 DEFICIENCIES
<b>Critical Facilities<sup>2</sup></b>	<p>11,512,133 ft<sup>2</sup> (54%)</p>	<p>Critical Facilities Frequency Goal: Every 12 Months<sup>3</sup></p> <p>12 Months (89%) 36 Months (4%) &gt;36 Months (7%)</p>	<p><b>Critical Facilities Documented Deficiencies</b></p> <p><b>Total = 1,247</b></p> <p>Annual fire inspections: 1,122 New building inspections: 125</p>
<b>General Facilities<sup>2</sup></b>	<p>9,682,031 ft<sup>2</sup> (46%)</p>	<p>General Facilities Frequency Goal: Every 36 Months<sup>4</sup></p> <p>36 Months (73%) &gt;36 Months (27%)</p>	<p><b>General Facilities Documented Deficiencies</b></p> <p><b>Total = 809</b></p> <p>Annual fire inspections: 737 New building inspections: 72</p>
<b>TOTALS</b>	<b>21,194,164 ft<sup>2</sup></b>	<b>16,792,914 ft<sup>2</sup> inspected in 2015 (79%)</b>	<b>Total Deficiencies = 2,056</b>



#### Notes:

<sup>1</sup> Fire Safety Services is responsible for inspecting 378 major and minor buildings associated with the Ann Arbor campus totaling 23,019,094 ft<sup>2</sup>. Leased properties, University Housing, and UM Health System facilities are excluded. 1,824,930 ft<sup>2</sup> of laboratory space within these buildings is inspected by other OSEH groups, and 21,194,164 ft<sup>2</sup> remains.

<sup>2</sup> Critical Facilities and General Facilities: "Critical Facilities" contain areas of special risk, including large public assembly spaces, residential space, specialized research, special collections, hazardous materials, sensitive and critical data and infrastructure. All other facilities are characterized as "General Facilities".

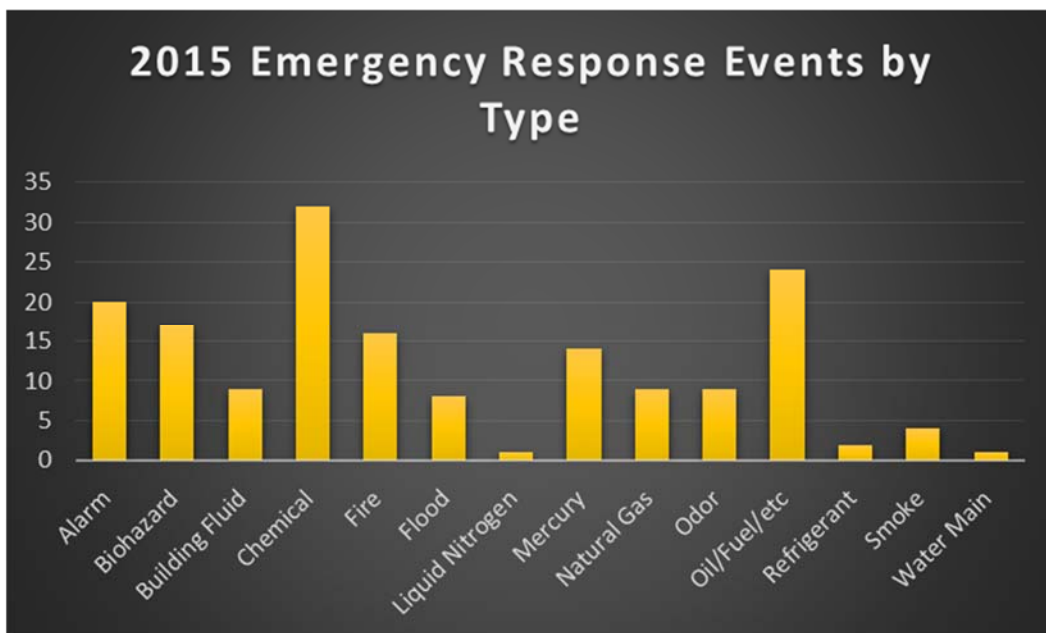
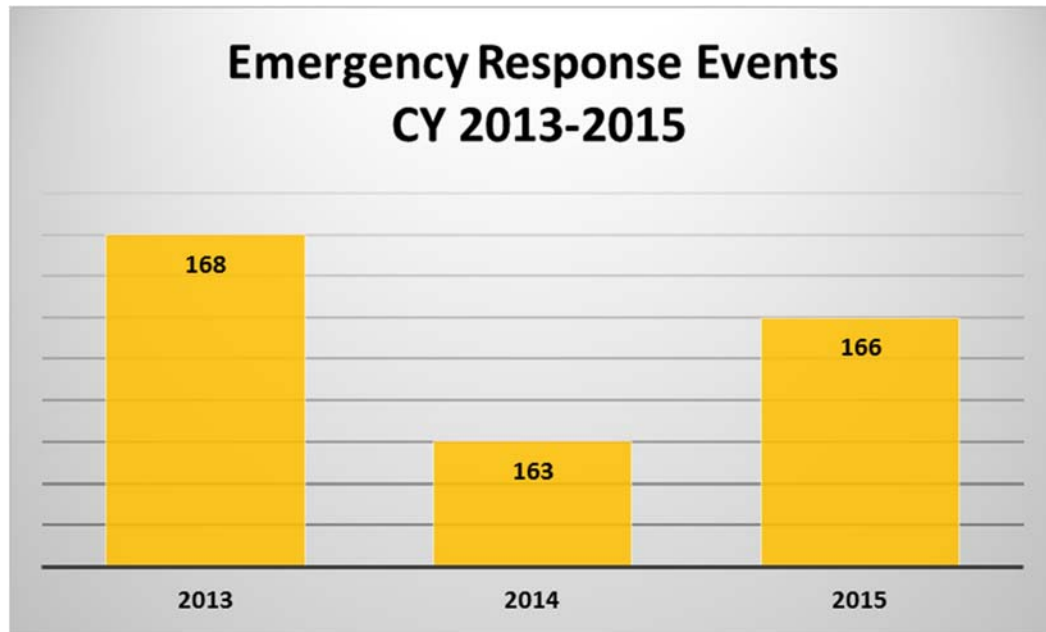
<sup>3</sup> 10,276,072 ft<sup>2</sup> of critical space was inspected in 2015.

<sup>4</sup> 6,516,842 ft<sup>2</sup> of general space was inspected in 2015.



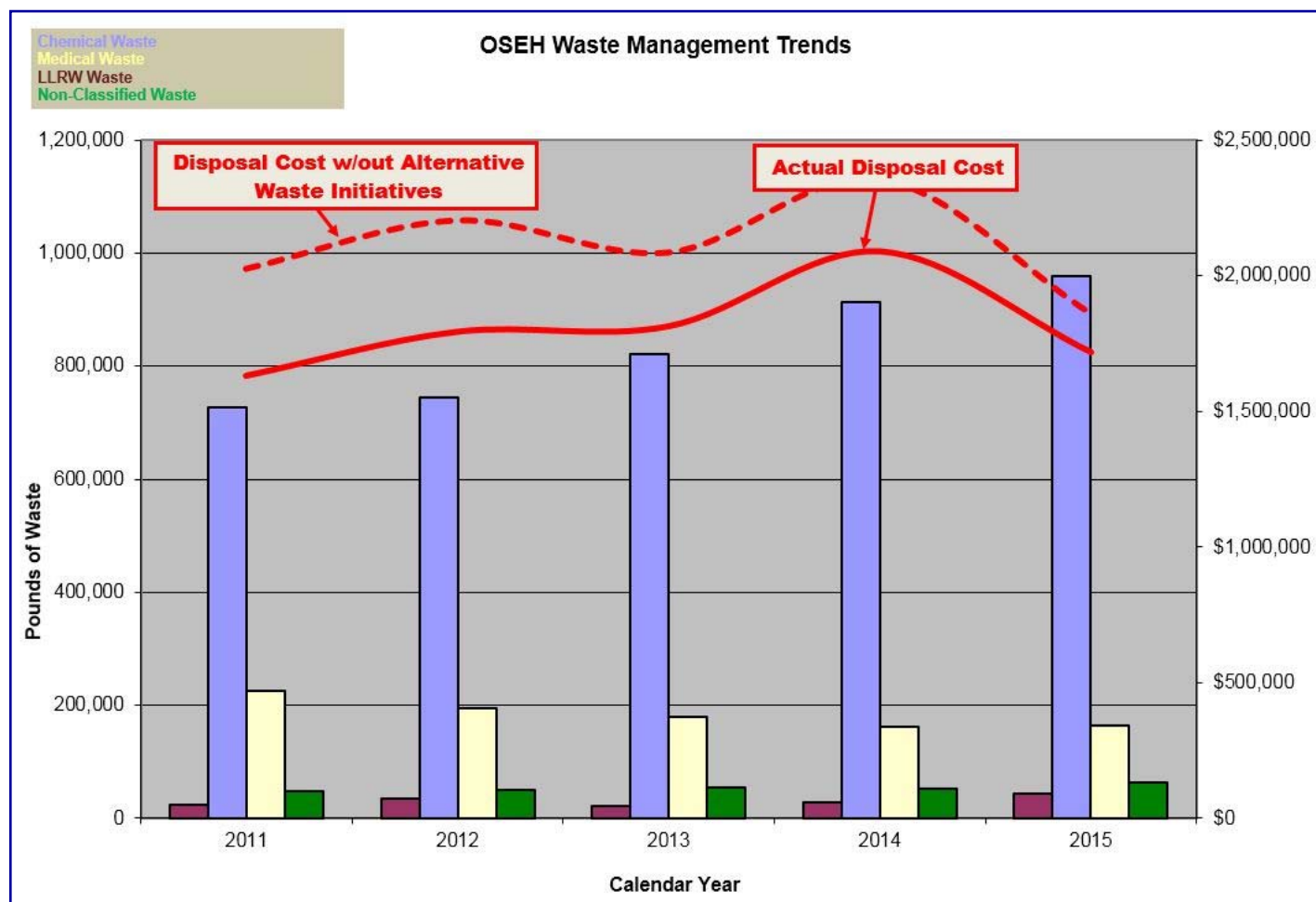
## OSEH Emergency Response Team

OSEH has an Emergency Response Team that provides 24/7 specialized response of personnel and equipment to the Ann Arbor Campus to protect the public, the environment, and property during incidents involving a release or potential release of hazardous materials. The tables below show the level of responses over the past three years as well as the variety of response event types that were seen in 2015.



## Hazardous Materials Management

Hazardous Materials Management (HMM) is responsible for the collection and proper disposal of chemical, radioactive, and biological waste generated throughout the 27 million square feet of facilities during teaching, research, and clinical operations at the Ann Arbor campus. HMM provides technical support and training to the University community on proper labeling, packaging, and manifesting of biological, chemical, and radioactive waste in compliance with the Nuclear Regulatory Commission, Department of Transportation, Federal Resource Conservation and Recovery Act, and Michigan Act 451 regulations. Strict compliance with these regulations ensures the waste is managed, transported, and disposed of properly while reducing potential liability to the University.



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**A VITAL LINK IN THE ENHANCEMENT OF A HEALTHY AND SAFE UNIVERSITY ENVIRONMENT!**