



UNIVERSITY OF HOUSTON
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ENVIRONMENTAL HEALTH AND RISK MANAGEMENT DEPARTMENT

ANNUAL REPORT

FISCAL YEAR 2009

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Environmental Health and Risk Management Department

ANNUAL REPORT – FISCAL YEAR 2009

MISSION STATEMENT

The primary purpose of Environmental Health and Risk Management (EHRM) is to support the University of Houston in its mission of higher education and research. The Department's efforts are directed at assisting the University in identifying environmental safety hazards and controlling such hazards through protective equipment, hazard mitigation methods, program development, purchase of insurance and other risk control and risk transfer techniques.

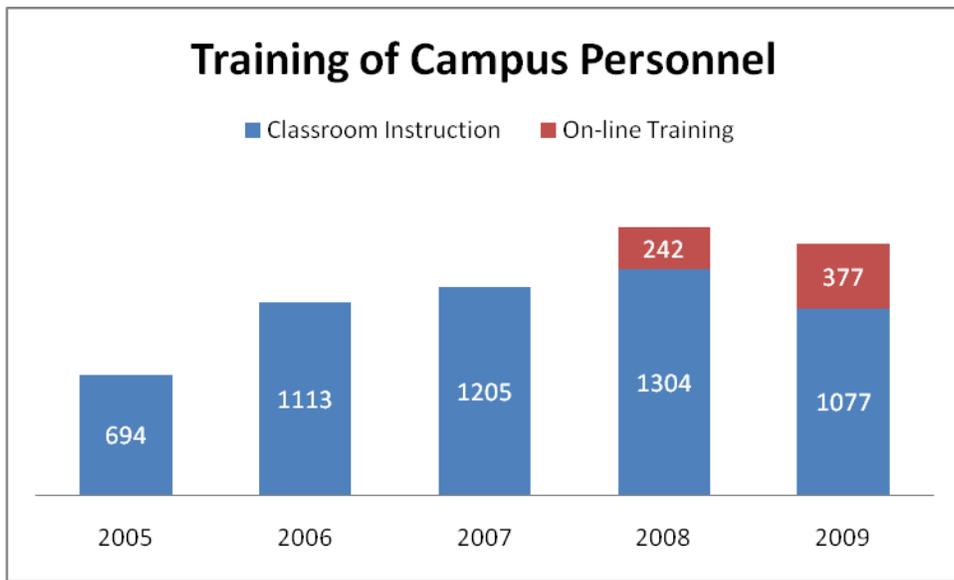
Environmental Health and Risk Management will keep abreast of relevant regulatory requirements in the areas of environmental compliance, biological safety, radiation safety, and risk management. Regulatory compliance will be achieved through clear communication of recommendations and interpretations regarding such regulations to the appropriate administrators within the University.

ROUTINE DUTIES AND FUNCTIONS

Training of University Community

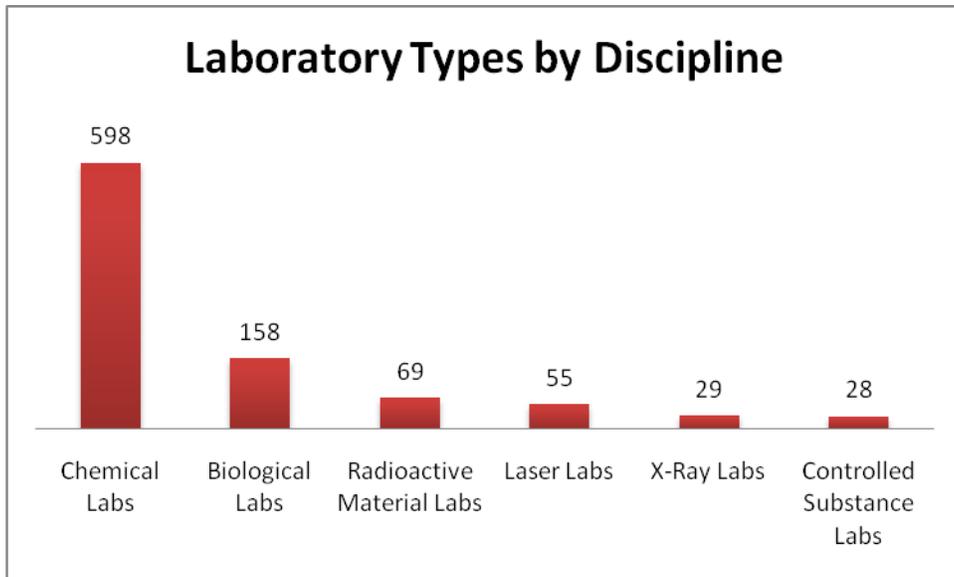
Training of the University's faculty, students and staff is a key responsibility of the department. The classes offered and number of people trained is listed as follows:

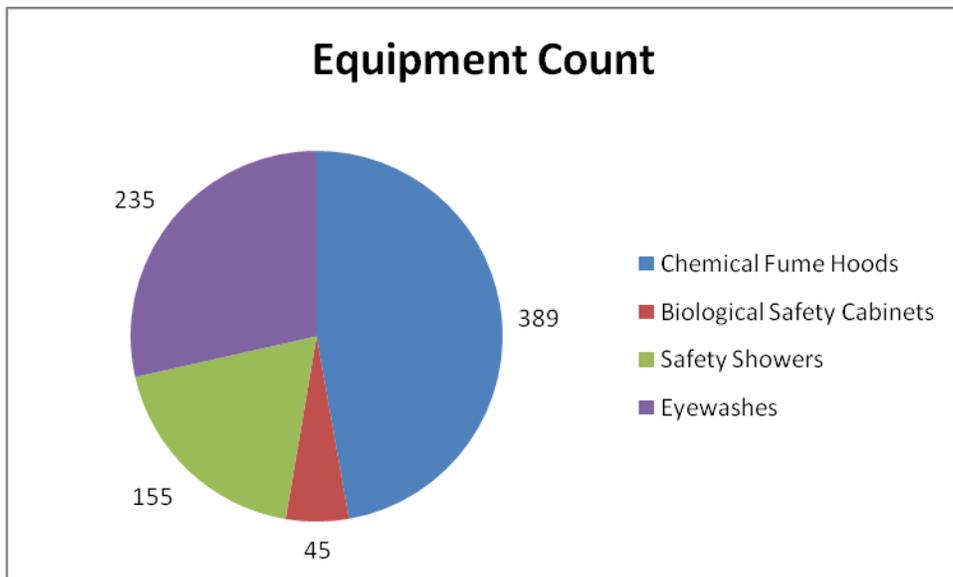
Instructor-Led Classes	People Trained	On-Line Training Courses	People Trained
General Laboratory Safety	290	Radioactive Material Refresher	94
Radioactive Material Safety	43	Laser Safety Refresher	82
Laser Safety	28	X-Ray Safety Refresher	113
X-Ray Safety	33	Asbestos Awareness	8
Biological Safety	138	Environmental Compliance	20
Blood borne Pathogens	503	Indoor Air Quality and Mold	3
Hazard Communications	35	Hazardous Waste Procedures	2
Respiratory Protection	0	Bloodborne Pathogens Refresher	51
Radioactive Safety Lecture	7	Workers Compensation	4
TOTAL	1077	TOTAL	377



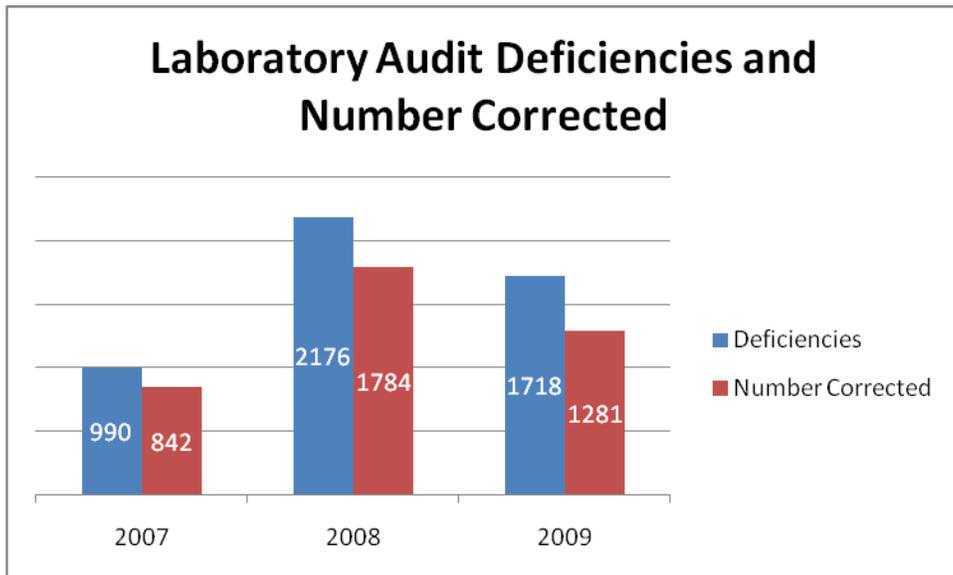
Laboratory Safety

The scope of the FY09 laboratory safety audits included over 150 Principal Investigators in 598 laboratories within 16 Buildings on campus. The statistics for FY09 completed audits by discipline and safety equipment are:





A total of 1,718 deficiencies were cited in 598 laboratories with 74.6% compliance for FY09. The laboratory safety program had a slight decrease in compliance due to the loss of a Health Physics Laboratory Safety Officer and the introduction of a new Chemical Laboratory Safety Officer midway into the fiscal year.



EHRM provided special funding this year to support PIs with safety mounts for compressed gas cylinders, secondary containment for chemical separation, faucet mount eye washes, sharps containers, and additional laboratory signage.

EHRM successfully used student workers to support the laboratory safety program through special projects which included:

- Laboratory Safety PIs Electronic Files Organization
- Maintain training records for Laboratory Safety Training
- Issue training certificates to all Laboratory Safety Training participants
- Generate Laboratory Signage

Research Support

Health Physics Services

EHRM personnel approved, received, surveyed, and distributed 26 radioisotope packages.

A total inventory of all radioactive material located on campus was performed every six months. The 8 higher activity radioactive sealed sources were leak tested every six months. The special nuclear material listed with the Nuclear Materials Management Security System is monitored annually.

Forty (40) annual survey meter calibrations were completed.

Radiation badges were issued including 106 whole body badges, 68 ring badges, and 114 area/public dose monitors. Dosimetry is conducted on a quarterly basis.

A total of 211 radioactive material laboratory surveys and wipe tests were performed in active Principal Investigators laboratories on a quarterly schedule. Only minimal contamination was found. All active Principal Investigators must perform their own monthly radioactive material laboratory surveys and wipe tests which are submitted for compliance review.

Consultative and Technical Support

EHRM provided consultative support to assist new principal investigators with orientation and laboratory setups. Technical support was also provided for various research projects and experimental operations of radiation Principal Investigators. In addition, special research involving the use of radiation was conducted by University faculty and students at national laboratories and international facilities/sites with specific authorizations and support provided as requested by these institutions.

Controlled Substances and Dangerous Drugs

The Health Center Pharmacy and 26 Principal Investigators are authorized by the United States Drug Enforcement Agency and the Texas Department of Public Safety to order clinical and non-clinical Controlled Substances and Dangerous Drugs. EHRM personnel approved, received, logged, and distributed all non-clinical purchases of Controlled Substances and Dangerous Drugs for 15 orders. Controlled Substances and Dangerous Drugs were inventoried every six months. Expired Controlled Substances and Dangerous Drugs are returned to the manufacturers or periodically destroyed under the oversight of the University Of Houston Department Of Public Safety.

Chemical Safety Services

Chemical inventories for all laboratories were obtained as part of the FY09 departmental goals. Many Principal Investigators (PIs) generated the chemical inventories for their laboratories, but most had to be converted by EHRM personnel into a useful and standardized electronic format. EHRM personnel created the chemical inventories for all other PIs who did not respond or needed help. This was a tedious process that took many man-hours of work.

EHRM personnel also started helping PIs with chemical incompatibilities identified in the laboratory safety program. This effort was widely received and greatly appreciated. This directly affects employee safety in the laboratories by proactively preventing incidents and minimizing hazardous situations.

In July of this fiscal year EHRM personnel began reviewing Standard Operating Procedures (SOPs) for hazardous chemicals used in animals. At the time of this report, EHRM has reviewed and approved 10 SOPs. Using current chemical inventories, EHRM will continue to develop this service with the use of to include all Chemical laboratories with hazardous chemicals.

EHRM personnel helped PIs with hazardous materials shipping. Assistance with shipping documentations and identification of hazards were provided. Outside contractors were contacted for Certified Shippers authorizations and signatures.

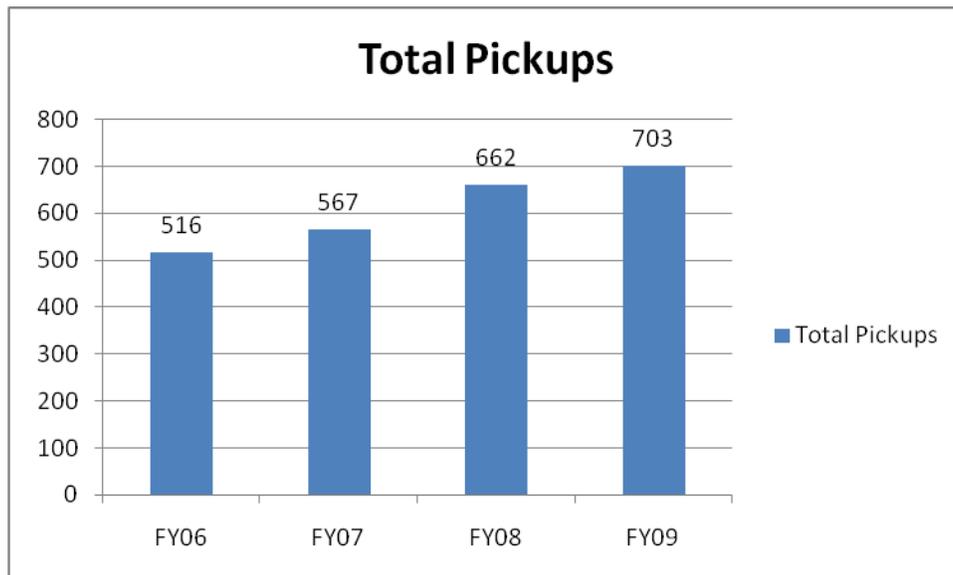
Hazardous Waste Management

The Environmental Protection Agency (EPA) is the federal agency that establishes minimum regulations for waste, and the state agency, Texas Commission on Environmental Quality (TCEQ), both regulate the disposal of waste generated at the University. Depending on the classification of the waste, there are significant requirements that must be met to maintain compliance. The University continues to expand its research and teaching activities which leads to the increased generation of regulated waste material.

EHRM maintains two buildings for the storage and disposal of waste, the Chemical Waste Building and the Radioactive Waste Building. Checklists are reviewed monthly for equipment maintenance and regulatory requirements. EHRM must continually handle, repackage, and reorganize waste along with maintaining adequate supplies for campus support.

The Environmental Health and Risk Management Department (EHRM) completed the following waste pick-ups from the main campus and the College of Pharmacy located in the Texas Medical Center (TMC):

- 305 chemical waste pick-ups
- 372 biological waste pick-ups
- 26 radioactive waste pick-ups



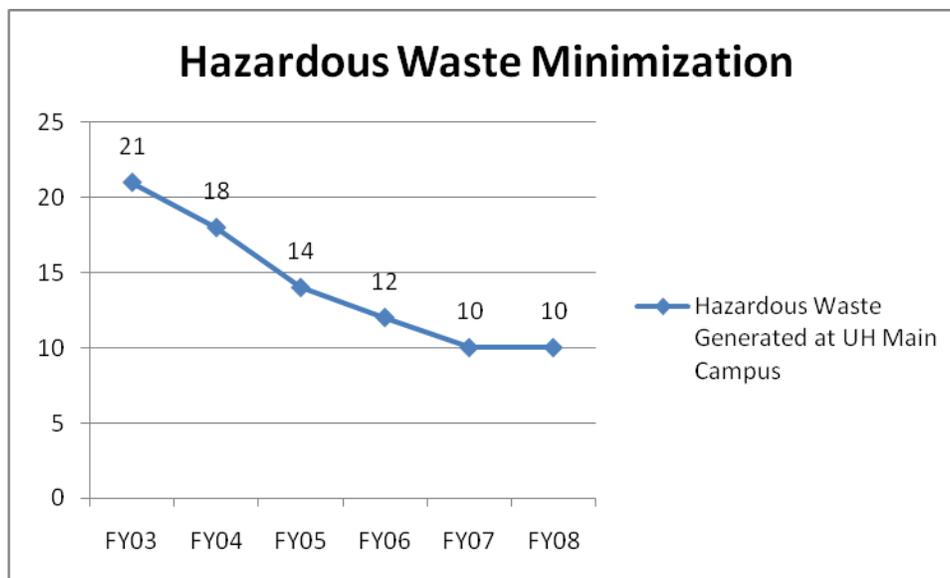
Aside from the requested pickups, the group also performed additional waste activities. One Comprehensive laboratory clean out in the Fleming Building and one in the TMC facility was coordinated by EHRM.

In addition to the chemical and biological waste, 105 grease and lint trap pump-outs were conducted throughout the main campus. The total amount of waste material was approximately 113,000 gallons. This was an increase from last year's total of 106,924 gallons of waste. One of the reasons for this increase was that City of Houston had passed a minimum quarterly pump out schedule unless the trap secured a waiver to semi-annual frequency. The EHRM filed waivers for 8 traps to change to the semi-annual frequency and they were approved in December 2008.

Environmental Protection

Pollution Prevention Activities

The University continues to generate a significant amount of hazardous waste per the TCEQ regulations and is classified as a large quantity generator. As a result of our large quantity generator status we are required to submit a Pollution Prevention (P2) Plan covering a five consecutive year period. Pollution prevention plans consist of projects and procedures that generators implement in an effort to reduce the total amount of hazardous waste generated and/or reduce the relative toxicity of the waste generated. Currently we are in our P2 Plan that covers the calendar years 2006 – 2010. In calendar year 2008, the total amount of hazardous waste shipped off campus was, 10 tons, and continued reduction as it has for the past several years. At the same time the number of chemical waste pick up requests continued increase. The graph below is compilation of the number of tons per calendar year of hazardous waste generated on campus.



EHRM is proud of our success with our hazardous waste minimization program. However, with the increased level of research activity, and since we have already implemented several waste minimization strategies, the total amount of hazardous waste generated has leveled off and is expected to start increasing in FY10.

We will continue our pollution prevention projects which have contributed heavily to our success. The increase in bulking compatible chemical wastes into a single drum and thereby reducing laboratory over pack waste drums, and the installation of a silver recovery system for photographic fixer waste from the College of Art are the two programs yielding the most success. In addition, we had some success with our chemical swap (CHEM SWAP) program, which is designed to share (unused) chemical compounds within the University community, rather than discarding them. The department performed 12 swaps in FY09 involving uranium and thorium compounds.

We also continued to recycle used oil via the used oil tank connected to the Auto Shop. Seven drums of used oil filters were recycled and 180 batteries of various sizes were picked up on campus and taken to a battery recycler.

No radioactive waste was shipped offsite for disposal in FY09. This is due primarily to regulatory regulations that allow for decay-in-storage for short-lived radioisotopes, whether in solid or liquid waste streams. In addition, deregulated levels of specific radioisotopes in biomedical waste allow for disposal in regular trash or sanitary sewer system without regard to radioactivity. Liquid aqueous waste may be disposed via the sanitary sewer within specified limited concentrations. UH also has a pathological incinerator for disposal of such waste in specified limited concentrations. All of these approved disposal

methods maximize the radioactive waste minimization efforts. It is estimated that 8 solid 55 gal drums and 25 liquid 5 gal carboys were disposed internally.

Spill Response and Clean-Up

In FY09 the group responded to 2 spills from vehicles around the campus. In addition, there was an acid spill at the TMC location that involved laboratory safety and environmental protection personnel. This brings the total to 3 spill responses plus addressing additional requests for emergency grease trap service, disposal of used hydraulic oil from elevator failures, and the presence of biological waste bags in the dumpster.

Service to UH & System Components

The Environmental Protection Manager continued to represent EHRM during project meetings for multiple UH campus projects such as the SERCC build out, diesel tank farm, and Engineering Annex Building demolition. His involvement is expected to continue and increase in FY10 as more generators are added, a new gasoline above ground storage tank is added, and more buildings are opened.

In addition to the UH campus, EHRM started quarterly meetings with other UH System environmental health and safety personnel to share ideas and enhance efforts system wide. As part of this process an audit for general compliance was done at UH Sugar Land, and a teleconference was held with UHV to address concerns about potential increased activity from EPA and the new EPA laboratory waste rule. The teleconference was well received by the UHV staff.

Plant Operations Indoor Air Quality (IAQ) Team Support

IAQ complaints comprise the bulk of incident investigations performed by EHRM. The Plant Operations IAQ Team tries to address the root causes of re-occurring IAQ problems. The Environmental Protection Manager represents EHRM on the team and leads the efforts in addressing IAQ problems that arise. In FY09 IAQ surveys were performed at UH Department of Public Safety, Agnes Arnold Building and the College of Architecture. In addition, mold sampling contracts were secured by EHRM for surveys in the McElhinney Building, Agnes Arnold Building, and the College of Architecture. There was also a survey for the Charter School located in Melcher Gym that was undertaken to assess chlorine levels in the vicinity of the pool. The results showed the level of chlorine to be less than the instrument's detection limit.

Grease Trap Demolition at Former China Star

During the demolition of the former China Star Restaurant, a grease trap was discovered. Grease traps, as well as grit and lint traps, are regulated by the City of Houston and waste from these plumbing devices has to be manifested and sent to an appropriate facility. EHRM coordinated the final pump out of this trap and delisting of the trap according to the City requirements.

Institutional Committees

Radiation Safety Committee

The Radiation Safety Committee, the Radiation Safety Officer, and the Vice President of Research work together as required by the Texas Department of State Health Services to oversee and manage the Radiation Safety Program. The Committee must meet a minimum of five times each year. As part of the annual review of the Radiation Safety Program, The Radiation Safety Officer reports about special projects, radiation incidents, and highlights of routine radiation safety activities to the Committee. The Radiation Safety Officer drafts the regulatory required annual report of the Committee that must be reviewed by senior university administration. This year coordination between the Radiation Safety Committee, the Institutional Review Board on Human Subjects, and the Institutional Animal Care and Use Committee on radiation protocols was strengthened.

Radiation Safety Committee approvals:

Discipline	Applications	Amendments
Radioactive Material	6	46
X-ray	2	15
Laser	2	51

Radiation Safety Program Scope:

Discipline	PIs	AUs	Laboratories	Machines
Radioactive Material	32	69	69	N/A
X-ray	18	99	29	37
Laser	39	55	55	128

PI's = Principal Investigators

AU's= Authorized Users

Institutional Biosafety Committee

The National Institutes of Health (NIH), through the Office of Biotechnology Activities, regulates the use of recombinant DNA molecules in research. Universities receiving NIH funding are required to have a registered Institutional Biosafety Committee (IBC) to comply with NIH requirements. The current IBC Committee roster now has representatives from the Department of Academic Affairs, Department of Biology and Biochemistry, Department of Health and Human Performance, College of Pharmacy in the Texas Medical Center, College of Optometry, and the University of Houston Downtown.

The Institutional Biosafety Committee met three times to discuss and approve 30 Memorandums of Understanding and Agreement (MUAs). Twenty-one (21) of these MUAs were new submissions and 9 were renewals. The program currently has 64 registered Principal Investigators and a total of 54 active projects of which 28 are at Biosafety Level 1 (BSL-1), and 36 are at Biosafety Level 2 (BSL-2). This is the fifth year of the current structure of the Biosafety Program.

The MUA approval process was augmented and enhanced by the implementation of a Subcommittee review. The process expedites approval and helps ensure that research is being performed in the safest possible way. A longer MUA approval period was also implemented as a result of this process.

Institutional Animal Care and Use Committee

The Biological and Chemical Safety Manager participates in the Institutional Animal Care and Use Committee (IACUC) to provide expertise in the risk assessment of all safety aspects. The Manager attended monthly meetings and two semi-annual inspections of the animal facility and animal research laboratories. The Biological and Chemical Safety Program has partnered with IACUC in providing training, written safety recommendations for specific procedures, and monitoring of programs for compliance. The Biological and Chemical Safety Manager, using the Laboratory Safety Program as a tool, has initiated an audit program which includes Animal Care Laboratories and Procedure Rooms.

Institutional Compliance Committee

The Institutional Compliance Committee meets quarterly to discuss calls made to the University's confidential reporting hotline and help the committee members stay focused on their regular tasks of updating their risk matrices and implementing effective control measures. The committee is now also discussing issues of a compliance nature that may be of interest to the group as a whole.

Regulatory Affairs

Regulatory Reports

Environmental Protection

A number of required reports were submitted on behalf of the University. These were as follows:

- Stage II Vapor Recovery Exemption Report filed in January 2009. The University can claim an exemption from vapor controls on the gasoline pump itself (known as Stage II Vapor Control) if less than 10,000 gallons is pumped per month.
- Texas Tier II report filed in February 2009. This is an inventory of hazardous chemicals for emergency planning purposes.
- Annual Waste Summary for College of Pharmacy (TMC) filed in January 2009 and the main campus filed in February 2009. This is a summary of regulated waste generated at both locations.
- Underground Storage Tank Registration & Self Certification form filed in March 2009. This is an annual report for underground storage tanks at General Services and Police.
- The Nitrogen Oxides (NO_x) Cap and Trade report filed in March 2009. This is a summary of NO_x emissions from the main campus.
- Pollution Prevention Progress Report filed in June 2009. This is required for the main campus due to our large quantity status as a generator of hazardous waste status.

Regulatory Licenses, Registrations, and Permits

Certificates of Compliance and Environmental Questionnaires, as required by government funding agencies, were reviewed and approved on behalf of Dr. De-Hua Han, Dr. Nikoloas Tsekos, Dr. Weihua Zhang, Dr. Earl Smith and Dr. David Francis.

Radiation Safety

The Radiation Safety Officer maintains the Radioactive Material Broad License, the X-ray Registration, and the Laser Registration with the Texas Department of State Health Services for the University. All three require a periodic technical review and renewal. Amendments must be submitted to Texas Department of State Health Services to make technical, procedural and administrative changes. This year the Radioactive Material Broad License was amended to reflect the change in the Radiation Safety Committee Membership and is current until March 31, 2013. The X-ray Registration was amended for changes in X-ray machines numbers & categories and is current until June 30, 2015. A Renewal of the Laser Registration was completed and is now current until June 30, 2019.

Radiation Safety Manual

The Radiation Safety Manual and Operational Radiation Safety Manual are continually updated by the RSO to include the new regulatory and procedural changes.

Regulatory Changes

Biological Safety

Recent media attention has placed a spot light on the use of biohazard research leading the NIH to issue a second notice of guidance on Institutional Biosafety Committee (IBC) minute records. The University of Houston's IBC has reacted positively to this guidance. The Biological Safety Officer (BSO) has ensured that all information needed to satisfy this new guidance is presented at each meeting and recorded in the minute records.

The BSO and the Biological Laboratory Safety Officer have trained several PIs in the rDNA guidelines and Infectious Substance Shipping.

Radiation Safety

The Texas Department of State Health Services routinely makes changes to the radiation regulations. These changes impact the Radiation Safety Program administratively, operationally, and procedurally. The Radiation Safety Officer attends stakeholders meetings and makes comments for the University on significant proposed legislation of radiation regulations. The Radiation Safety Officer also receives confidential notices from the Nuclear Regulatory Commission prompted by the Department of Homeland Security on the security of radiation sources and devices.

Regulatory Recordkeeping

EHRM maintains regulatory records for all disciplines and areas of the Department. The records are indexed and organized by topic, building, or discipline. This year student workers scanned many file cabinets of asbestos files for archiving. EHRM specifically maintains Principal Investigator files which contain all applications, amendments, associated documents, and audits. Many operational records like the health physics records are required by law to be maintained for a specified period of time and subject to state inspection. Therefore, all such records must be kept up to date, accurate, complete, and inspection-ready without exception. Medical, workers' compensation, and controlled substances files are confidential and must be kept locked from unauthorized access.

Regulatory Inspections

A City of Houston Environmental Investigator made an unannounced site visit on April 30, 2009 concerning grease traps. He was interested in several permits that we had earlier delisted as now longer active. We were able to produce the documentation showing the permits to no longer be active.

A state inspection of the X-ray Registration for both industrial and medical X-ray machines was conducted by a Texas Department of State Health Services radiation inspector. No violations were cited and no recommendations were offered. A state inspection of the Radioactive Material Broad License is expected every 2-3 years. The Laser Registration is inspected less frequently.

Risk Management

Insurance Management

The Department obtained insurance coverage for all UH System components, currently 19 insurance policies.

Hurricane Ike Claim

Hurricane Ike caused damages to most buildings on campus and the total loss was approximately \$24 million. Recoveries are being received from the insurance carrier and the Federal Emergency Management Agency (FEMA). The State of Texas is also expected to provide assistance with financial recovery. At the time of this writing, the claim has not been resolved but it is expected that combined, full financial recovery will be received from the three recovery sources.

General Liability Claim Investigations

There were twenty (20) premises liability investigations that occurred this fiscal year, primarily damage to vehicles. The most frequent claims were from trees falling on vehicles and insufficient warning signs at certain underground parking garages.

Automobile Liability Claim Investigations

There were twelve (12) automobile liability damage and five (5) physical damage claims filed against the University. Two automobile liability damage claims were filed by the University against the responsible driver.

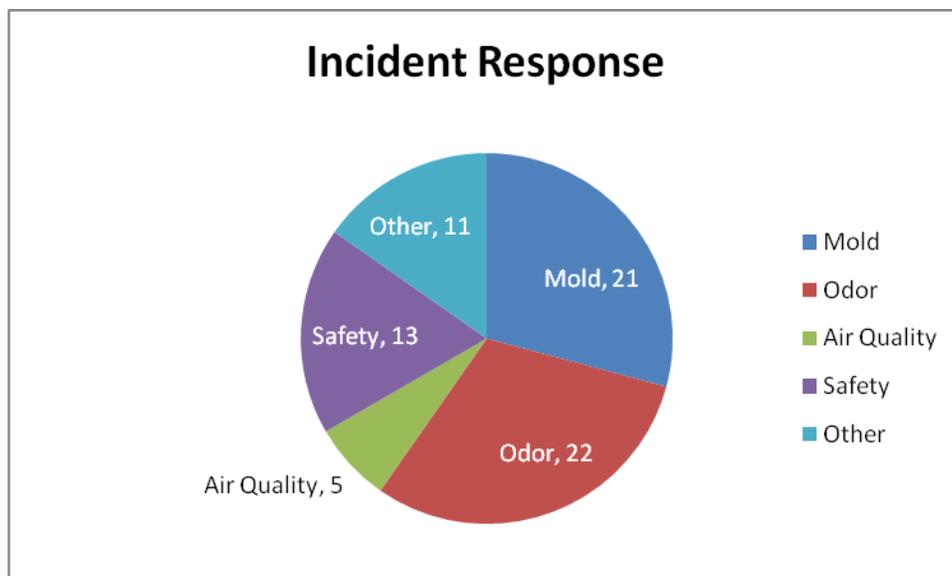
The total amount of automobile and general liability claims payment for FY09 was \$25,992.52

Workers' Compensation Claims

There were 73 workers compensation claims for the year. The cost of claims continues to decrease from a high of \$136 per employee in 2003 to the current rate of \$61 per employee in FY09. The most frequent and most severe claims continue to be strains and sprains.

Incident Response

There were 72 total incidents entered into Facility Focus that were directed to EHRM in FY09. This was a 25% increase from last year's total of 57. The majority (48) were indoor air quality (IAQ) related concerns. These included mold complaints, various types of odors, and other IAQ complaints such as temperature and stale air. The remaining incidents included 13 for safety related issues and the 11 remaining incidents were considered as 'other' in the breakdown.



Motor Vehicle Record Evaluation

EHRM checked the driving records of 1,047 campus drivers. The few that did not meet acceptability criteria were referred to department management for appropriate actions.

Professional Development of EHRM Staff

Since environmental health is a highly regulated technical area, professional development of staff is a priority of the department. In prior years approximately 35 % of the department's operational budget has been dedicated to professional development. Financial constraints caused a significant reduction in professional development of staff. The formal training programs the department's staff participated in are as follows:

- University Risk Management and Insurance Association (URMIA) Annual Conference – Washington, DC
- American Society of Safety Engineers (ASSE)- Safety 2009- Annual Conference - San Antonio, Texas (A Technical Session on the Minimizing Hazardous Waste was presented by EHRM) (2 employees)
- 8 hour Hazardous Waste Operations and Emergency Response Refresher - Houston (11 staff members).
- Hazardous Waste Refresher - Houston
- Annual Mid-Year Health Physics Society Conference – San Antonio
- Computer Based Instructional Preparation College Course for Certification in Health Physics
- Online NIMS 100, 200 700, 800 Training
- 2009 International Air Transport Association (IATA) Radioactive Material Shipping 40 hrs Training DVD
- International Air Transport Association (IATA) Infectious Substance Shipping Training – Houston (5 employees)
- Chlorine Dioxide Decontamination Training – Houston (3 employees)

ADDITIONAL ACCOMPLISHMENTS AND ACHIEVEMENTS

System-wide Safety Meetings

This year we began quarterly meetings of safety staff of the various component universities. The meetings are held as informal team-based problem solving and exchange of information about safety topics and developments that are of interest to each other. Another intent of the meetings is to influence the personnel at the smaller components to direct their efforts toward the most important issues and maximize their efficiency.

Installation of Fuel Meters on Recreation Center Boilers

EHRM was successful in FY09 in getting individual fuel flow meters installed on the twin boilers in the Campus Recreation Center. Since the boilers each have a maximum rated capacity greater than 2MMBTU (they are 7.5 MMBTU each) the TCEQ air rules called for the fuel meters. With the addition of these flow meters the UH campus has enhanced its compliance level with current TCEQ air emission standards. Actual monthly records of gas consumption per boiler can now be kept versus an estimate from the building supply meter.

X-ray Safety Refresher Training

The annual on-line X-ray Safety Refresher Training Course was developed and implemented as a FY09 goal. This course replaces the requirement to retake the instructor-led course every 5 years.

Reproductive Health Brochure

A brochure called the “Pregnant Employee’s Guide to Radiation” was completed with the form on the back. This follows regulations from the Texas Department of State Health Services as well as the Nuclear Regulatory Commission’s Regulatory Guide.

Blaffer Gallery Oil Exhibit

The Blaffer Gallery approached EHRM with a request to assist them in displaying a drum of oil. The drum was clear plastic made for this exhibit. The drum was a centerpiece of a larger exhibit on the petroleum industry and its effects on Houston. EHRM assisted gallery personnel with moving the drum to the exhibit hall, supplying additional spill supplies, and disposing of the oil after they exhibit ended.

Noise Survey at the Hilton

The general manager of the Hilton College of Hotel and Restaurant Management approached EHRM with a unique noise concern. Residents nearby had a complaint about a specific exhaust fan on the Hilton causing excessive noise disturbance in their neighborhood. EHRM performed a sound level survey around the perimeter of the Hilton and did not find any significant noise sources other than traffic in the area. This information was conveyed to the residents and it helped diffuse tensions between the residents and the hotel.

Web Site Update

EHRM revised its web site to follow the design of the University’s web site. Many new links were added in specific subject areas along with quick links to the most common services requested by our customers. All of the subject manuals were updated and the site was made much more user friendly.

Peer Review of UH Downtown

Two of the department’s managers conducted a peer review of University of Houston – Downtown’s (UHD) risk management and safety functions. Recommendations were submitted to help UHD improve the effectiveness of their processes.

HONORS

Emmett Sullivan, Mark O'Riley and Sanjay Shiwprasad submitted an abstract for the ASSE Annual Professional Development Conference and Exposition. The abstract was accepted by ASSE and was presented by Emmett at the annual conference in San Antonio, Texas. In addition, the paper has been chosen for publication in a future edition of the ASSE Journal *Professional Safety*

Otu Inyang and Robert Schneller drafted a paper on the Comprehensive Laboratory Safety Program that was published in NACUBO's "Business Officer" magazine.

Otu Inyang was named as Employee of the Month for October 2008 by Plant Operations.

Otu Inyang and Lisa Benford presented "Enhancing Undergraduate Research Experience in Partnership with the EHRM Department" at the University of Houston System 2009 ACE Conference on Student Success, Houston, Texas.

CHALLENGES

The Department's staffing is less than half that of peer institutions considering the enrollment, total square footage and square footage of laboratory space. Therefore, the department needs to prioritize the services it provides and cannot perform all services typically performed by similar departments at many other large research universities. The department's emphasis in environmental health is in the area of research support, specifically laboratory safety, with few resources dedicated to other aspects of environmental health and safety. This is necessary because radiation safety is heavily regulated and biological safety also has significant requirements that would impact funded research very negatively if the requirements are not met. Key functions not performed are:

Regulated Waste

- Audits of a select group of generators on campus, such as laboratories, UC, and RLH to verify that regulated waste is being properly disposed of
- Verification testing on autoclaves used for biological waste to ensure they are operating properly
- Audit construction and renovation project waste disposal practices for compliance
- Track down and charge back contractors who leave regulated waste behind for disposal
- Regularly audit the University's waste vendors and recyclers facilities for compliance

Air Emissions

- Audit the run meters on the emergency generators for accuracy
- Measure and verify new boilers and emergency generators can meet the emission standards that are claimed for the specific unit
- Audit refrigerant use and recovery methods around campus

Spill Prevention Control and Countermeasures (SPCC) Plan

- Perform routine audits of all the diesel generators

Tier II

- Institute a chemical tracking system to secure a high level of confidence in the University's chemical purchase and storage practices and lead to more detailed Tier II report

Indoor Air Quality (IAQ) Concerns

- Proactively test for potential IAQ problems

Storm Water

- Monitor for storm water excursions during major events
- Check individual storm water pollution prevention plans to verify if sampling was done in accordance with the plan

Asbestos Containing Material (ACM)

- The ACM Surveys are not current.
- Records of abatements, laboratory analysis and other related documents are not being sent to EHRM to be filed in a centralized area.
- Asbestos containing materials are not identified as such on campus.
- Audit work orders to ensure that employees are not disturbing ACM

Radiation Safety

- Six months inventory of lasers
- Documentation and survey of large nonionizing radiation producing devices

Biological Safety

- Develop and implement Autoclave compliance and maintenance program
- Develop and implement Contaminated Sharps Injury Log program

Chemical Safety

- Perform industrial hygiene monitoring of hazardous chemical use

Occupational Safety

- Auditing contractors for common health and safety programs such as confined space entry, respiratory protection, lock out/tag out, and hazard communication
- Audit if shops practice the rescue drills per the confined space entry regulations for UH employees
- Job safety analysis and ensuring that the proper safety equipment is available for the trade occupations
- Assist shops develop job-specific and equipment-specific safety training programs

Environmental Health and Risk Management Department

Staff

Robert D. Schneller
Director

Sondra Armstrong
Secretary II

Lisa K. Edwards-Benford
Biological and Chemical Safety Manager

David R. Miller
Radiation Safety Manager

Emmett C. Sullivan
Environmental Compliance Manager

Eno Udoh
Risk Management Administrator

Natalio Oliva, Jr.
Claims Coordinator

Otu Inyang
Laboratory Safety Officer

Erika Ladd
Laboratory Safety Officer

Callistus C. Nnabuife
Laboratory Safety Officer

Mark A. O'Riley
Laboratory Safety Officer

Boris Tsenov
Laboratory Safety Officer

Sanjay Shiwprasad
Environmental Protection Specialist

Victor DeLeon
Environmental Protection Specialist

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