



Office of Internal Audit

Audit of the Laboratory Safety Process

Report No. 13/14-14

May 13, 2014



OFFICE OF INTERNAL AUDIT

Date: May 13, 2014

To: Kenneth Jessell, Chief Financial Officer and Senior Vice President
Ruben D. Almaguer, Assistant Vice President for Disaster Management & Emergency Operations

From: Allen Vann, Audit Director

A handwritten signature in blue ink, which appears to read "Allen Vann", is written over the "From:" line.

Subject: Audit of the Laboratory Safety Process, Report No. 13/14-14

Pursuant to our approved annual plan, we have completed an audit of the Laboratory Safety Process. The primary objective of our audit was to determine if Environmental Health & Safety (EH&S)'s established controls and procedures related to lab safety were adequate and effective; being adhered to; and in accordance with University policies and procedures and applicable laws, rules and regulations.

Overall, our audit disclosed that EH&S's controls related to lab safety need improvement in the areas of departmental manuals and procedures, lab inspections, lab data management and employee safety training. Also, controls related to lab access and tracking of hazardous materials need strengthening, but this will require collaborative effort and action by other University departments. The audit resulted in 14 recommendations which management agreed to implement.

Recently, EH&S has developed a web-based campus map to identify labs where chemical, biological and radiological materials are stored. In addition, they are in the process of improving their lab data management system by implementing a database software system called EH&S Assistant, which will allow them to manage their lab safety inspection process more efficiently and effectively.

We would like to take this opportunity to express our appreciation for the cooperation and courtesies extended to us during this audit.

Attachment

C: Sukrit Agrawal, Chair, BOT Finance and Audit Committee and Committee Members
Mark B. Rosenberg, University President
Douglas Wartzok, Provost and Executive Vice President
Andres Gil, Vice President for Research
Javier I. Marques, Chief of Staff, Office of the President
Amy Aiken, Interim Director of Environmental Health & Safety

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OBJECTIVES, SCOPE AND METHODOLOGY

Pursuant to our approved annual plan, we have completed an audit of the Laboratory Safety Process. The primary objective of our audit was to determine if Environmental Health & Safety (EH&S)'s established controls and procedures related to lab safety were (1) adequate and effective; (2) being adhered to; and (3) in accordance with University policies and procedures and applicable federal and state laws, rules and regulations.

Our audit included review of lab safety operations for the period July 1, 2012 through October 31, 2013. The audit was conducted in accordance with the *International Standards for the Professional Practice of Internal Auditing*, and included tests of the accounting records and such other auditing procedures as we considered necessary under the circumstances.

During the audit, we compared University policies and procedures to other universities and reviewed applicable Florida statutes and federal laws. We observed current practices and processing techniques, and interviewed responsible personnel. Additionally, we accompanied Laboratory Safety Officers on their inspections, completed safety training courses, and reviewed EH&S's laboratory inspection source documents and training reports. Sample sizes for items selected for testing were determined on a judgmental basis. Audit fieldwork was conducted from December 2013 to March 2014.

As this was the first internal audit of the Laboratory Safety Process, there were no prior internal audit recommendations related to the scope and objectives of this audit requiring follow-up. Similarly, there were no other external audit reports issued during the last three years with any applicable prior recommendations related to the scope and objectives of this audit.

BACKGROUND

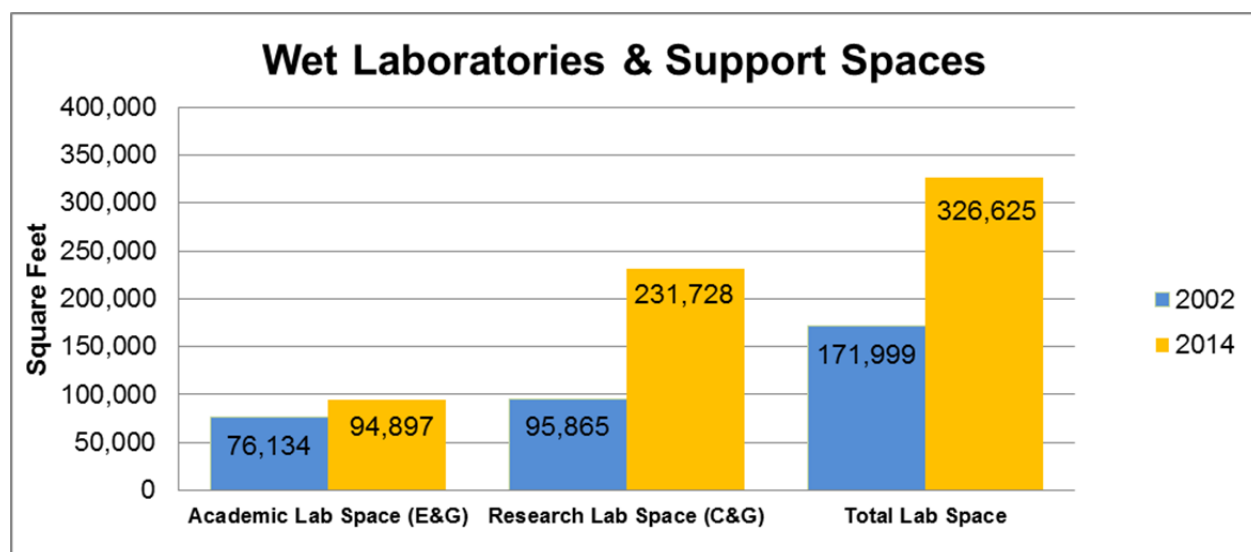
Working collaboratively with stakeholders, EH&S provides support and guidance to the Florida International University (FIU or University) community in several areas including Biological Safety, Chemical Safety, Controlled Substances Safety, Dive & Boat Safety, Industrial Safety, Nano Material, Environmental Compliance, Fire Safety, Laser Safety, Radiation Safety and Laboratory Safety.

The Laboratory Safety program is responsible for Laboratory Safety Evaluations, Lab Hoods Use & Inspections, Lab Facility Closures, Research Protocol Reviews and Laboratory Safety Culture Resources. Their objective is to protect the environment and all individuals that may be exposed to hazardous chemicals within our laboratories, research support areas, academic lab spaces and similar settings. EH&S also offers various classroom and on-line training courses, including laboratory safety awareness, to help ensure a safe and environmental friendly campus. Many of these training topics are required by federal authorities.



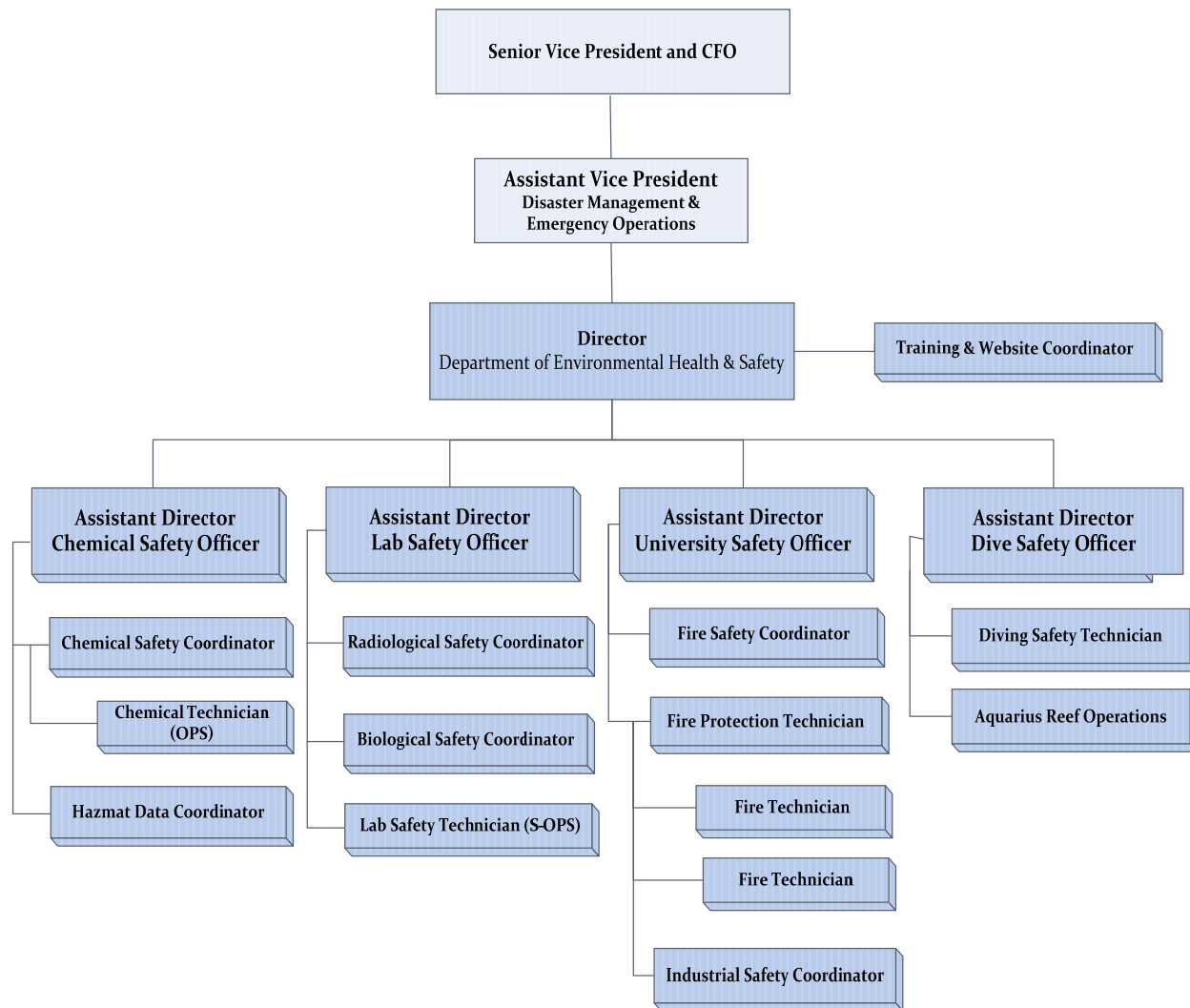
FIU Academic & Research Laboratory Spaces

FIU currently has a total of 326,625 square feet of academic & research lab space, which represents a 90% increase from twelve years ago. The following graph provides an overview of this dramatic growth in lab space.



Personnel

In March 2012, the reporting structure of EH&S changed from the General Counsel to the Senior Vice President and CFO. The Department has 19 positions; three of which are FTE positions dedicated to laboratory safety. Currently, EH&S is overseen by the Assistant Vice President for Disaster Management and Emergency Operations and is being managed by an Interim Director. The Assistant Vice President is in the process of filling the Department's director position. The organization chart as of April 2014 is depicted below.



FINDINGS AND RECOMMENDATIONS

Overall, our audit disclosed that EH&S's controls related to lab safety need improvement in the areas of departmental manuals and procedures, lab inspections, lab data management and employee safety training. Also, controls related to lab access and tracking of hazardous materials need strengthening, but this will require collaborative effort and action by other University departments. Our overall evaluation of internal controls is summarized in the table below.

INTERNAL CONTROLS RATING			
CRITERIA	SATISFACTORY	FAIR	INADEQUATE
Process Controls			X
Policy & Procedures Compliance		X	
Effect			X
Information Risk			X
External Risk		X	
INTERNAL CONTROLS LEGEND			
CRITERIA	SATISFACTORY	FAIR	INADEQUATE
Process Controls	Effective	Opportunities exist to improve effectiveness	Do not exist or are not reliable
Policy & Procedures Compliance	Non-compliance issues are minor	Non-compliance Issues may be systemic	Non-compliance issues are pervasive, significant, or have severe consequences
Effect	Not likely to impact operations or program outcomes	Impact on outcomes contained	Negative impact on outcomes
Information Risk	Information systems are reliable	Data systems are mostly accurate but can be improved	Systems produce incomplete or inaccurate data which may cause inappropriate financial and operational decisions
External Risk	None or low	Medium	High

1. Policies and Procedures

The Occupational Safety and Health Administration (OSHA) is the main federal agency charged with the enforcement of safety and health laws and regulations. It provides specific standards to address workplaces where hazardous chemicals are used in non-production laboratories. These standards include Occupational Exposure to Hazardous Chemicals in Laboratories (29 CFR 1910.1450), commonly referred to as the Laboratory Standard and the Hazard Communication Standard (29 CFR 1910.1200). OSHA also provides a Laboratory Safety Guidance publication, which contains their recommendations as well as descriptions of mandatory safety and health standards.

During the audit we noted that the University recently designated an individual as a Chemical Hygiene Officer. According to the Laboratory Standard (29 CFR 1910.1450), employers should have a written Chemical Hygiene Plan in place. While elements of a Plan could be found in the Lab Safety Manual, a stand-alone Chemical Hygiene Plan was not in place.

Per 29 CFR 1910.1200, the Hazard Communication Standard is designed to protect against chemical source illnesses and injuries by ensuring employers and workers are provided with sufficient information to recognize, evaluate and control chemical hazards and take appropriate protective measures. Several steps required to comply with this standard include: a) the development and maintenance of a written hazard communication program; b) ensuring that Material Safety Data Sheets (MSDSs) for chemicals that workers may be exposed to are made available; and c) the development and implementation of training programs regarding hazards of chemicals. EH&S has successfully implemented a training course that is mandatory for all lab employees and also checked to ensure that MSDSs are readily available during lab inspections. However, EH&S has not fully implemented a stand-alone written Hazard Communication program.

Our review of policies and procedures at three other state universities, Florida State University, Texas Tech University and University of California, Los Angeles (UCLA) disclosed that they have fully implemented a chemical hygiene plan and hazard communication program.

We also noted that several of EH&S's internal manuals and procedures have not been reviewed or updated in over five years.

Recommendations

The Environmental Health & Safety department should:	
1.1	Fully implement a written Chemical Hygiene Plan.
1.2	Fully implement a written Hazard Communication Program.
1.3	Review and update manuals and procedures.

Management Response/Action Plan:

- 1.1 Based on the requirements of the OSHA Laboratory Standard 29 CFR 1910.1450 for the chemical hygiene plan (CHP), the required elements of the CHP have been addressed within the FIU Laboratory Safety Manual in Sections 2.2, 2.4, 5.0, 7.3, 9.6, 9.7, Appendix M, Appendix V, and Appendix N. This information will be created in a separate document.

Implementation date: June 30, 2014

- 1.2 Based on the requirements of the OSHA Hazard Communication Standard 29 CFR 1910.1200, the required elements of the Hazard Communication Plan are addressed in Sections 2.3, 2.4, 3.1, 11.0, Appendices D, Q, and R of the FIU Lab Safety Manual. A template for an area-specific hazard communication plan is also provided in Appendix D of the FIU Lab Safety Manual. This information will be created in a separate document.

Implementation date: June 30, 2014

- 1.3 EH&S will develop and implement a work plan to ensure that all manuals/procedures are updated. Procedures/manuals will be reviewed by assigned staff every other year beginning in 2014 or as regulations change.

Implementation date: June 30, 2014

2. Lab Safety Administration

Per the University's Laboratory Safety Manual, the Laboratory Safety team is responsible for assisting Department Heads, Principal Investigators and Laboratory Managers in achieving compliance with laboratory safety standards and the requirements set forth in the manual. Some of the responsibilities include:

- Assisting principal investigators in the selection of best laboratory safety practices, personal protective equipment, and engineering controls.
- Conducting laboratory safety inspections at the frequency prescribed by the degree of hazard of each laboratory.
- Investigating all reported accidents that result in personnel or environmental exposure to hazardous materials and recommending corrective action to reduce the potential for recurrence.
- Facilitating and scheduling appropriate training and dissemination of topical information in order to promote safe laboratory practices.
- Monitoring laboratory personnel for potential exposure to hazardous substances.
- Providing guidance on administrative and procedural controls for the safe management of regulated substances.

Our observations in this area are discussed as follow.

a) Lab Data Management

EH&S has developed a web-based campus map to identify labs where chemical, biological and radiological materials are stored. In addition, they are in the process of improving their lab data management system by implementing a database software system called EH&S Assistant, which will allow them to manage their lab safety inspection process more efficiently and effectively. They expect EH&S Assistant to be fully operational by June 2014.

Our review of the lab inventory spreadsheet that is currently used by the department disclosed that it did not provide comprehensive lab information. The information in the spreadsheet was compared to a list of active research labs obtained from the Division of Research (DoR) to verify completeness and accuracy of data. The following conditions were noted:

- There was a discrepancy of 107 research labs between the DoR's list and EH&S's lab inventory spreadsheet.

- The lab inventory spreadsheet included old campus names or locations and outdated Principal Investigators/Lab Managers associated with a lab.
- Research labs were not easily identifiable from academic labs.
- The Special Lab Hazard Codes used in the spreadsheet, which is supposed to categorize and identify the type of lab and/or hazardous material used in the lab, were incomplete.

During our review of lab inspection data, we noted that EH&S did not have a standardized process for completing and storing lab inspection checklists. Each Lab Safety Officer maintained their inspection checklists in binders with varying filing systems within their respective offices. Our review of these inspection checklists revealed incomplete forms that were missing pertinent information including the name and/or signature of the Safety Officer who performed the inspection and the date of inspection. Also, the location (building and room number) on some of the inspection checklists did not match the building and room number on their lab inventory spreadsheet, making it difficult to determine which lab was actually inspected.

While we did not review the data management system in development, management's recognition of the improvements needed in current record keeping practices and their proactive approach is commendable. With a more reliable and accurate inventory of labs, assigned researchers and hazardous materials, lab inspections can be effectively prioritized and managed.

b) Lab Inspections and Follow-up

EH&S's process to determine and schedule lab inspections involved each Safety Officer manually going through their respective binders and looking at dates on previous inspection checklists as EH&S does not have a formal scheduling system. This manual and inefficient process could result in missing needed lab inspections and duplicate visits to the same labs as EH&S does not have clear knowledge of when and if an inspection was previously performed.

Our review of the lab inspection checklists for inspections performed during three years from January 2011 to December 2013 revealed that only 124 out of 406 labs (31%) on EH&S's inventory spreadsheet had been inspected. Based on the frequency specified by EH&S or mandated by external authorities, all biosafety labs should be inspected at least annually and all labs that contain radioactive material should be inspected quarterly.

In addition, EH&S had not implemented procedures to ensure efficient and timely follow-up on labs that were cited with having compliance issues. Our testing revealed that four out of five deficiencies selected (80%) were not followed-up for a period ranging from 37 to 355 days after the deficiencies were identified. The deficiencies included: not properly securing radioactive material in the freezer; a leaking canopy hood with mold on the wall

below the hood; not taking required safety training courses by lab employees; and not having emergency contact information and biohazard signage on the entrance door. These four deficiencies were subsequently followed up and EH&S found that none of them had been corrected.

Management attributed these issues to a number of factors: 1) the 26.6% growth in the number of labs between 2010 to 2014, 2) limited and reduced staff due to personnel medical leave, and 3) the need to focus on other regulatory compliance areas where there was a risk of being fined. Nonetheless, timely and comprehensive inspections and follow-up of prior deficiencies are essential for ensuring compliance with federal and state requirements and to mitigate potential risks to lab employees.

c) Lab Access

We reviewed the procedures relating to three Principal Investigators (PIs) that have permits to hold and use controlled substances to ensure that access to obtain the substances is restricted, the substances are appropriately stored and the lab is maintaining proper records of usage. EH&S provided sufficient documentation to evidence their monitoring of access to controlled substances and no exceptions were noted in this area.

Additionally, we reviewed Cardholders Access Reports for six labs. We verified on a selected basis that terminated employees who previously had access to the labs did not in fact use their cards to enter the labs. Although the Reports contained no terminated employees accessing the labs, we noted that employees in the Facilities/Custodial department consistently appeared on the reports and had access to all the labs that were selected. As this issue was also brought up during our fieldwork by one of the PIs that use hazardous materials in his lab, we inquired with the Associate Director of Facilities Management Operations about their need for access. Per the Associate Director, “they should not have access to labs with hazardous materials. They should only have access to labs that pose no health risks. In the labs where they do not have access the staff from the lab will work out a cleaning schedule and provide monitored access.” Weak lab access controls increase employees exposure to hazardous materials, and exposes the University to unnecessary risk.

According to management, EH&S is not responsible for controlling who has access to University labs. This responsibility relies on the coordination among various departments including Division of Research, Academic Affairs and Facilities Management.

d) External Oversight and Lab Incidents

We reviewed two Biomedical Waste Generator Inspection Reports issued by the Florida Department of Health during the audit period. The University was in compliance with all requirements and no fines or penalties were assessed.

We also reviewed worker's compensation claims filed during the audit period that were related to laboratory incidents. The accident investigation report was reviewed for the one claim reported and we noted that EH&S timely responded to the incident and safety training was provided to the employee, as requested. No exceptions were noted in these areas.

Recommendations

The Environmental Health & Safety department should:	
2.1	Continue to implement the EH&S Assistant software to effectively manage the lab safety process, but in the interim, reconcile the lab inventory spreadsheet currently in use with the Division of Research's list of research labs to ensure that it has accurate and complete lab data.
2.2	Ensure that all future inspection checklists are properly completed and include the name of the Safety Officer who performed the inspection, the date and the lab location.
2.3	Develop a formal scheduling system to assist with scheduling and assigning lab inspections.
2.4	Determine and implement the appropriate response time to follow-up on corrective actions.
2.5	Consult with the Division of Research, Academic Affairs and Facility Management to ensure that processes are in place to effectively manage lab access.

Management Response/Action Plan:

- 2.1 The EH&S Assistant electronic software management program is populated with chemical inventories, safety inspector ID information and Principal Investigator (PI) information pertaining to individual labs.

EH&S reconciled the laboratory inventory spreadsheet with Division of Research's (DoR) lists of laboratories. Staff will review both lists on a monthly basis to ensure accuracy.

Implementation date: June 30, 2014

- 2.2 All checklists have been uploaded into EH&S Assistant and all the necessary fields mentioned such as name of safety officer, type of inspection, date and violation are included.

Implementation date: June 30, 2014

- 2.3 An electronic EH&S inspection schedule has been developed and implemented in SharePoint and is accessible to all safety officers. Each officer is assigned lab spaces based on their area of expertise and given a time period to complete the inspection. The safety officers update the SharePoint calendar once the inspection is completed.

Implementation date: Immediately

- 2.4 EH&S developed and implemented lab safety violation criteria and corrective action response times. This criteria will be programmed into EH&S Assistant.

EH&S will add a lab inspection webpage to the EH&S website where users can obtain information about what to expect during an inspection, common violations, violation criteria, corrective action response times and FAQs.

Implementation date: June 30, 2014

- 2.5 Although lab access is solely determined by DoR, Academic Affairs and Key Control, EH&S will consult with the Divisions to improve lab access.

Implementation date: June 30, 2014

3. Tracking and Monitoring of Hazardous Materials

We observed that the University does not have an effective process to track and control chemical purchases and identify unauthorized purchases, repeat violators and problem areas for intervention. EH&S recently issued guidelines for *“Using FIU Pro Card to order Chemicals without prior EH&S approval/Responsible Chemical Management (Storage, Use and Disposal),”* in which labs are required to meet, demonstrate and maintain the requirements stated in the procedure prior to being approved to use the Pro-Card (P-Card) to purchase hazardous chemicals. To become an “authorized user,” the lab must successfully pass an inspection performed by a Lab Safety Officer. During our fieldwork, two Pls became authorized and were the only two approved thus far to use the P-Card.

We reviewed a report of random P-Card transaction violations that is produced by the Office of Controller’s Quality Assurance team and discovered 64 violations related to the purchase of hazardous chemicals during the audit period.

Per discussion with management, a Chemical Safety Working Group comprised of EH&S, Purchasing, Division of Research and Pls was established to develop an effective way to track and monitor hazardous materials to minimize the risk of improper usage, storage and disposal.

Recommendation

The Environmental Health & Safety department should:	
3.1	Continue collaborating with the Chemical Safety Working Group to ensure that an effective process to track and monitor hazardous materials is established.

Management Response/Action Plan:

- 3.1 The Chemical Safety Working Group consists of representatives from EH&S, DoR, Purchasing, Pls, Academic Affairs and outside vendors. The group is meeting biweekly to establish effective processes to monitor the purchasing of hazardous materials and make recommendations for improved procurement.

Implementation date: December 31, 2014

4. Lab Safety Training

OSHA regulation standard 29 CFR 1910.1450(f) states that “employers shall provide employees with information and training to ensure that they are apprised of the hazards of chemicals present in their work area. Such information shall be provided at the time of an employee’s initial assignment to a work area where hazardous chemicals are present and prior to assignments involving new exposure situations. The frequency of refresher information and training shall be determined by the employer.”

As such, EH&S provides various safety education training courses and other resources and guidance to the University community to satisfy this regulatory requirement. The FIU Laboratory Safety Manual mandates that each individual working with, or who may be potentially exposed to chemical, thermal, radiological, biological, electrical, mechanical or any recognized or recognizable hazard in the setting of a teaching or research laboratory environment possess or receive sufficient information and training that will enable them to understand the relative significance of the potential hazards of the materials to which they are exposed and to work safely.

Our observations in this area are discussed as follow.

a) Mandatory Safety Training Courses

EH&S’s “Research Laboratory Safety Training Requirements” document indicates Fire Safety, Hazard Communication and Laboratory Safety Awareness as three of the mandatory training courses for lab employees, with a two year refresher required for Fire Safety and Laboratory Safety Awareness and a yearly refresher required for Hazard Communication.

We selected ten employees (PIs/Lab Managers/Professors) from EH&S’s lab inventory spreadsheet and requested the names of their current laboratory workers. We reviewed a total of 62 laboratory employees (including the ten PIs, lab managers, professors, graduate students, researchers and assistants) to determine if they had taken each of the mandatory safety training courses. Our testing determined that:

- Twenty-one of the sixty-two (34%) had not received the Fire Safety Training within the past two years;
- Eight of the sixty-two (13%) had not received the Laboratory Safety Training within the past two years; and
- Thirty-five of the sixty-two (56%) had not received the Hazard Communication training within the past year.

Additionally, out of the ten PIs/Lab Managers/Professors selected, only three had taken at least one of the mandatory training courses, as they were instructors and/or said to be not really “active” in the lab. However, the FIU Laboratory Safety Manual or the

“Research Laboratory Safety Training Requirements” document does not identify exemptions from these training courses.

We also determined that EH&S did not have a means to effectively capture safety training needs for employees or identify when refresher courses are due to be able intervene and proactively inform PIs/Lab Managers. For example, EH&S used an Access database in combination with information from their previous training software, Claritynet, to gather data on employee safety training. Our review of reports generated from the database revealed that information was insufficient to accurately determine training received by employees.

Reports from the database indicated what safety training courses were provided during a certain period of time and the number of employees that registered for a particular course, but the reports did not provide key information such as the name of the employee associated with the registered course and the date it was taken. As a result, this information was supplemented with reports from the Claritynet system to get the employee’s name, the safety training course taken and the date. However, our review of these reports also lead to unreliable information as none of the employees selected appeared in the reports. This resulted in manually looking up employees individually or requesting documentation from PIs/Lab Managers to determine what training courses the 62 sampled laboratory employees had taken, resulting in a very time consuming and inefficient process.

Per discussion with EH&S, it is ultimately the responsibility of the PI/Lab Manager to ensure that all their lab employees receive the necessary training prior to working in the labs and to keep up with when refresher courses have to be taken. However, EH&S had not established a process to proactively advise newly hired PIs of the necessary training requirements and other resources provided by EH&S, mainly because they were unaware themselves of when a new PI started or when a lab became occupied, thus increasing the risk of unknowledgeable and untrained employees.

The risk associated with potentially untrained lab employees includes injury to themselves and other lab workers, exposure to various health and safety hazards without adequate training, noncompliance with regulatory requirements, fines and adverse public relations for the University. Employees who are knowledgeable and properly trained are better able to identify and minimize hazards and unhealthful exposure for themselves and their peers.

b) Evaluation of Training Courses

During our audit, EH&S transitioned to a new eLearning training system using the “Moodle” platform, which allows for easier access to online safety training courses without prior registration approval from EH&S. Four of the online safety courses were selected and reviewed to evaluate the information and determine if they adequately addressed regulatory requirements. These courses were: Laboratory Safety

Awareness, Hazard Communications, Small Spills and Leaks and EPA: Hazardous Waste Awareness & Handling.

Although the information presented in the courses appeared to be adequate and sufficient to address safety concerns and other internal and external regulatory requirements, several issues were noted with the training materials and quizzes that needs to be improved. These issues included incomplete or confusing quiz questions, questions pertaining to information that was not covered during the training, questions that were wrongfully marked as incorrect when in-fact the correct answer was selected, difficulty with presentation audio or timers, restriction to only one successfully attempt to master the course and difficulty with obtaining certificates immediately after a course was completed.

In addition, we noted that the “Research Laboratory Safety Training Requirements” document that outlines the courses offered needs to be updated. For instance, some of the courses that were listed as “online” on the document were not available on Moodle and some of the course names in the document didn’t necessarily tie to the course names as listed on Moodle, making it difficult to appropriately identify the courses.

It is imperative for safety training courses and the related material to provide accurate, complete and clear information when pertaining to important safety regulations and requirements. Additionally, other issues noted can provide a less than “user-friendly” experience for employees when taking training courses online.

Recommendations

The Environmental Health & Safety department should:	
4.1	Update the training database and develop better reporting tools within the training software to effectively identify and capture employees needing training and are due for refresher courses.
4.2	Develop a process to notify employees and PIs/Lab Managers of required training or to provide notice of training delinquency.
4.3	Develop a procedure to inform newly hired PI’s on training requirements and other resources available from EH&S.
4.4	Review and update all safety training courses and quizzes.
4.5	Update the Research Laboratory Safety Training Requirements document.

Management Response/Action Plan:

- 4.1 EH&S has transitioned to a new electronic platform that will generate training reports. During the first week of each month, the training coordinator will generate training reports to be reviewed by lab safety staff. Notifications will be sent to those whose training is about to expire.

EH&S will continue to review training certificates during lab safety inspections to ensure that required training is completed. It is the responsibility of the PI to make sure all lab staff have completed the required training courses and that all certificates remain up-to-date and accessible during inspections. Failure to do so will result in a violation.

EH&S will continue to work with DoR, Academic Affairs and Human Resources to identify which employees require training.

Implementation date: September 30, 2014

- 4.2 (a) EH&S will continue to use the Lab Managers' Listserv as a resource to disseminate information pertaining to training requirements and laboratory safety. The listserv contact list will be checked monthly to ensure it is current.

Implementation date: June 30, 2014

- (b) During the first week of each month, the training coordinator will generate training reports to be reviewed by lab safety staff. Notifications will be sent to those whose training is about to expire.

EH&S will continue to review training certificates during lab safety inspections to ensure that required training is completed. It is the responsibility of the PI to make sure all lab staff have completed the required training courses, and that all certificates remain up-to-date and accessible during inspections. Failure to do so will result in a violation.

Implementation date: September 30, 2014

- 4.3 EH&S has identified several areas where additional information about newly hired PIs can be gathered.

New Faculty Orientation (DoR) – EH&S can obtain a list of new employees who attend the orientation, particularly the research session of the orientation.

Research Proposal Screening (DoR) – EH&S currently receives research proposals from DoR for safety review. Information on training, hazardous materials handling/storage/disposal and resources are provided to the PI via the assigned proposal manager.

Award Process (DoR) – EH&S can obtain a list of PIs who have been awarded funding from DoR. DoR also refers the PI to EH&S for additional information during this process.

Assigned Lab space (DoR) – DoR can provide a list of PIs and their assigned lab spaces. EH&S can meet with the PI and evaluate the lab space.

New Employee Hiring (HR) – EH&S will meet with HR to identify and possibly tag key position titles that require completion of safety training, and implement a notification system ensuring contact with employee within 30 days of hire. This will ideally capture lab staff hired by the PI that is not required to undergo the DoR orientation process. Ultimately, it is the responsibility of the PI to ensure that all staff has completed the required safety training prior to working in the lab area.

Implementation date: December 30, 2014

- 4.4 EH&S will develop and implement a work plan to ensure that all EH&S developed training courses/quizzes are updated and work with vendor to ensure purchased courses are updated and working properly. Courses/quizzes will be reviewed annually by assigned staff or as regulations change.

Implementation date: June 30, 2014

- 4.5 The Research Laboratory Safety Training Requirements document has been updated.

Implementation date: Immediately