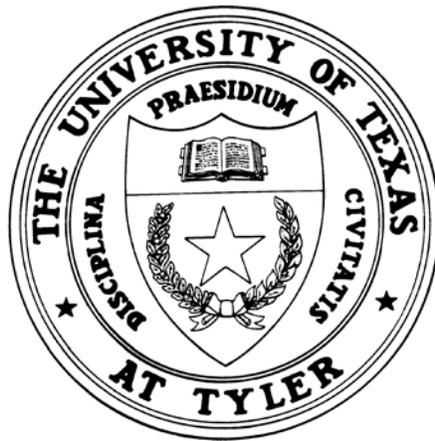


The University of Texas at Tyler

**Campus and Laboratory Hazardous Materials
and Equipment Safety Audit**



July 2015

**OFFICE OF AUDIT AND CONSULTING SERVICES
3900 UNIVERSITY BOULEVARD
TYLER, TEXAS 75799**

TABLE OF CONTENTS

EXECUTIVE SUMMARY..... 2
BACKGROUND..... 2
AUDIT OBJECTIVE 4
STANDARDS..... 4
SCOPE AND METHODOLOGY 5
AUDIT RESULTS..... 5
 #1 *Resource Allocation to High Risk Areas* 5
 #2 *Safety Conditions and Inspections*..... 6
 #3 *Employee and Student Training*..... 7
 #4 *Policies and Procedures* 8
 #5 *High Risk Monitoring Plans* 9
 #6 *Department Safety Liaison (DSL) Program* 10
 #7 *Environmental Safety Committee* 11
EH&S DIRECTOR SUMMARY COMMENTS..... 11
CONCLUSION..... 12

**The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015**

EXECUTIVE SUMMARY

The University of Texas at Tyler (UT Tyler) has hazardous materials and equipment on its campuses for use in student labs, research labs, and campus operations. Federal, State, University of Texas System (UT System), and UT Tyler policies exist to mitigate the risks associated with these items. Campus safety is the responsibility of every employee and student on campus, however, the Environmental Health and Safety (EH&S) department is responsible for the development and oversight of the campus safety program including risks related to hazardous materials and equipment. The objectives of the audit were to determine if UT Tyler is in compliance with policy requirements including adequate and appropriate policies and procedures, employee training, storage and inspection of hazardous materials and equipment, implementation of the risk monitoring plan, and communication and follow-up of safety concerns.

During the audit we noted issues and provided recommendations for the following areas:

1. Resource Allocation to High Risk Areas,
2. Safety Conditions and Inspections,
3. Employee and Student Training,
4. Policies and Procedures,
5. High Risk Monitoring Plans,
6. Department Safety Liaison Program, and
7. Environmental Safety Committee.

BACKGROUND

Institutions of Higher Education are required to follow the Texas Public Department of Health Hazardous Communication Law, Section 520 that includes compliance with OSHA Chapter 29 CFR 1910.1200, commonly known as the "Right to Know Law". This Law requires departments to have a written Hazardous Communication (Haz Com) Program that includes requirements for training, safe handling, storage, labeling and disposal of hazardous materials. The University of Texas at Tyler assigns the responsibility for the campus safety program for hazardous materials and equipment to EH&S.

Other policies and responsibilities for campus and laboratory safety include the following:

- UT System Policy UTS 174, Environmental Health and Safety which states *“the responsibilities and procedures for assurance that each institution in the U. T. System has developed and maintains appropriate environmental, health, and safety programs for protection of its students, faculty, staff, visitors, and the surrounding community. Accordingly, each institution shall provide resources sufficient to manage the environmental, health, and safety risks inherent to the operations of that institution. The policy also states:*
 - Section 3.5: *Institutional departments responsible for EH&S will establish, support, and maintain written policies, programs, training, and procedures necessary to achieve proper EH&S risk management and manage identified risk through measured programs of compliance.*
 - Section 3.1: *Each U. T. System institution shall perform an Environmental Health and Safety (EH&S) risk assessment to identify potential hazards that are present on their respective campus, along with the associated compliance requirements. Policies and procedures shall be created and implemented to address the identified EH&S risks on each campus. Subject areas to be included in the risk assessment may include, but are not limited to: occupational*

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

- safety, fire and life safety, chemical safety, biological safety, radiation safety, environmental affairs, and emergency management. Each institution shall have the authority to determine the appropriate EH&S risk assessment methodology, policies, and procedures for its respective institution. EH&S policies and procedures shall be continuously assessed by each institution and programs updated accordingly to maintain a compliant and effective EH&S program.*
- *Section 3.4: Each institution is responsible for providing sufficient staffing and financial resources to manage EH&S risks inherent to its operation, designating a department responsible for executing an EH&S program.*
 - *Section 3.6: All other departments at the institution are responsible for incorporating applicable EH&S requirements into their procedures and operations and supporting the EH&S culture through continued participation in EH&S sponsored training, activities, and initiatives.”*
- *The UT Tyler Management Responsibilities Handbook states:*
- *“Each department and budget unit is expected to have a departmental policies and procedures manual. A department policies and procedures manual should address policies and procedures that are unique to the department and procedures to implement institutional policies and procedures.*
 - *Department heads and budget authorities are responsible for workplace safety in their respective areas including training, safety equipment and personal protection equipment, environmental protection and accident prevention. If a department head or budget authority has a question about environmental health and safety laws and regulations, he or she should contact the Director of Environmental Health and Safety (EH&S).*
 - *Laboratory Safety Manual: Copies of UT Tyler’s Laboratory Safety Manual are available from EH&S (903-566-7011). This manual covers chemical, biological, radiation, and physical safety in departmental laboratories. Faculty members are expected to incorporate these guidelines into their course curricula.*
 - *Laboratory Safety Audits: EH&S will conduct yearly laboratory safety audits to ensure that all applicable policies and procedures are being followed. Department heads will review and respond to areas needing improvement.*
 - *Laboratory Waste Management Guidelines: UT Tyler’s Laboratory Waste Management Guidelines is located at <http://www.uttyler.edu/safety/files/labwastemanual.pdf> . These guidelines cover the collection and disposal of chemical, biological, and special materials.*
 - *Each department head should appoint or coordinate with another department, a representative to UT Tyler's Departmental Safety Liaison (DSL) Committee. Department liaisons help to disseminate safety information and sponsor safety training in departments. Department liaisons also have important responsibilities in the event of an emergency.”*

The Fiscal Year (FY) 2015 EH&S budget was approximately \$460,000. The budget included \$112,000 for salaries for a Director, Safety Specialist, and half-time Administrative Assistant, and \$27,000 for part-time student workers. The department is responsible for campus-wide safety including:

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

- Fire and Life Safety,
- Higher Education Opportunity Act required Department of Education Reporting,
- Lab Safety Programs,
- Chemical Safety Program,
- Radiation Safety Program,
- Hazardous Waste Program,
- Storm Water Management Program,
- Oil Spill Prevention Control and Countermeasure Program,
- Pollution Prevention Program,
- Research Project Protocol Review,
- Maintenance Permit Evaluations,
- Accident Investigation,
- Campus Construction Oversight and Inspections,
- Environmental Health and Safety campus-wide training,
- Departmental Safety Liaison (DSL) Program training and monitoring,
- Service on several UT Tyler and UT System Committees and Advisory Groups, and
- General campus safety including air quality, animals, injuries, first aid materials including Automatic External Defibrillator (AED) inspection and maintenance, emergency exit lights, etc.

UT Tyler is a growing campus with over 2,000 employees and 8,000 students. Building construction has occurred on campus for the last 4 years and construction is planned for the next two years. During FY 2015, the campus consisted of over 50 buildings at 5 separate locations (two in Tyler, one each in Longview, Palestine and Houston) that contain approximately 1.5 million square feet. These buildings include over 100,000 square feet where hazardous chemicals or equipment are used or stored. These numbers do not include the new UT Tyler College of Pharmacy consisting of approximately 60,000 square feet that will be placed in service in FY 2016 and include additional areas containing hazardous chemicals.

AUDIT OBJECTIVE

The objectives of the audit were to determine if UT Tyler is in compliance with hazardous materials and equipment requirements including adequate and appropriate policies and procedures, employee training, storage and inspection of hazardous materials and equipment, implementation of the risk monitoring plan, and communication and follow-up of safety concerns.

STANDARDS

The audit was conducted in accordance with guidelines set forth in *The Institute of Internal Auditors' Standards for the Professional Practice of Internal Auditing*.

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

SCOPE AND METHODOLOGY

This audit was included in the FY 2015 Annual Audit Plan and approved by the Institutional Audit Committee. To accomplish the objectives noted above the following procedures were conducted:

- Reviewed Federal, State, UT System, and UT Tyler EH&S policies and procedures;
- Reviewed EH&S High Risk Monitoring Plans for adequacy and implementation status;
- Surveyed budget authorities who purchase, use or store hazardous materials or equipment to determine if they have adequate policies and procedures;
- Reviewed training policies and documents for employees including lab supervisors;
- Reviewed training policies and documents for students enrolled in labs containing hazardous materials or equipment;
- Reviewed the responsibilities and activities of UT Tyler oversight committees and departmental safety programs;
- Inspected labs and campus areas containing hazardous materials and equipment to determine the following:
 - The area was maintained in accordance with safety guidelines;
 - Emergency contact information was current and posted;
 - Chemicals and equipment were properly inventoried, labeled, stored and disposed;
 - Chemical Safety Data Sheets were current and accessible;
 - Areas were adequately secured from unauthorized people;
 - Safety equipment including fire extinguishers, emergency lights, eye wash stations, emergency showers, personal protection equipment, fume hoods, electrical protection, and first aid kits were adequate, available, inspected, and functioning.

Our procedures did not include inspection of any construction sites.

AUDIT RESULTS

According to the University of Texas System Audit Office, “A *Priority Finding* is defined as an issue identified by an internal audit that, if not addressed timely, could directly impact the achievement of a strategic or important operational objective of a UT institution or the UT System as a whole. Factors for determining a Priority Finding have been established in three categories: Organizational Controls, Quantitative Risks, and Qualitative Risks”. Priority Findings are reported to the UT System Audit, Compliance, and Management Review Committee. This audit resulted in seven Reportable Findings, but no Priority Findings.

#1 Resource Allocation to High Risk Areas*

The EH&S department is currently not fulfilling responsibilities related to hazardous materials and equipment as detailed in the remainder of this report. In addition, EH&S management has disclosed they are unable to fulfill other responsibilities related to campus-wide safety listed above due to the limited resources.

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

Recommendation #1 EH&S: The department should complete a risk assessment to determine the most effective use of resources. This should be communicated to executive management so they are aware of risks that are not adequately addressed by EH&S.

EH&S Director Response and Implementation Date: A risk assessment will be updated and discussed with Executive Management by November 30, 2015.

#2 Safety Conditions and Inspections

EH&S is required to conduct inspections of labs and other campus areas that contain hazardous materials and equipment as required by the Management Responsibilities Handbook. However, only one department was inspected during FY 2014 and 2015. During this audit, EH&S and Audit Department personnel inspected over 50 locations that could contain hazardous materials on the UT Tyler campus, as well as the Houston Engineering Center and Discovery Science Place. These locations included student labs, research labs, storage areas, physical plant, student housing, athletic facilities, and the student recreation center. We noted the Chemistry Department areas inspected were in compliance with the safety guidelines tested. We noted other campus areas inspected were not in compliance in one or more of the following areas:

- Emergency and safety procedures and contact information were not current and posted;
- Access was not controlled to rooms, chemicals, equipment, and electrical circuit panels;
- Personal Protective Equipment was not available and used when required, including chemical gloves, safety goggles and respiratory equipment;
- First Aid kits were not adequately stocked and available;
- Fire extinguishers were not accessible and recently inspected;
- Eye wash stations and chemical safety showers were not operational, properly marked, and accessible;
- Chemical Safety Data Sheets and inventory records were not current and maintained;
- Chemicals, including compressed gas and flammables, were not in properly labeled containers and properly stored;
- Students were allowed to bring chemicals and materials for use in the lab that were not purchased by UT Tyler and approved by EH&S;
- Equipment was not properly secured, inspected, and did not contain appropriate safety guards;
- Electrical hazards included improper use of surge protectors and extension cords, damaged equipment cords, plugs not grounded or covered, electrical circuit breaker box blocked, and missing junction boxes;
- Emergency shut-off mechanisms for natural gas or equipment were not installed, labeled and accessible; and
- General hazardous conditions included cords blocking walkways, EXIT signs not working, blocked exit doors, missing or blocked fire extinguishers and fire pull stations, and fire doors propped open.

Specific locations and pictures of these violations have been provided to the EH&S Director.

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

Recommendation #2a EH&S: The issues noted in the inspected locations during this audit should be communicated to department management. Follow up inspections should be conducted to verify the issues have been corrected.

EH&S Director Response and Implementation Date: The results will be communicated by August 31, 2015. Follow up inspections will be completed by January 31, 2016.

Recommendation #2b EH&S: Policies and procedures should be developed for systematic inspection of labs and other campus areas that contain hazardous materials or equipment and the results communicated to department and executive management. If EH&S resources are not adequate for completing systematic the inspections, UT Tyler should consider delegating this responsibility to specific trained employees appointed to the labs or areas such as chemistry, biology, engineering, etc. The results of the inspections should be reported to EH&S for monitoring. Any deficiencies that are not corrected in a reasonable time should be reported to executive management.

EH&S Director Response and Implementation Date: Lab inspections have not been consistently performed due to a lack of staff and the additional responsibilities assigned to the EH&S department. Lab inspections should be conducted by a trained and knowledgeable safety specialist. With the approval to hire an additional safety specialist, the inspections can be completed by January 31, 2016. EH&S will monitor the results of the inspections for adequate follow-up of areas of non-compliance and communicate uncorrected deficiencies to executive management.

Recommendation #2c Physical Plant: Policies and procedures should be developed for systematic inspection and documentation of campus areas that contain hazardous chemicals or equipment including mechanical rooms, generators, gas storage tanks, elevators and transformers. The results of the inspections should be reported to EH&S for monitoring. Any deficiencies that are not corrected in a reasonable time should be reported to executive management.

Physical Plant Director and Implementation Date: Policies and procedures have now been developed that include systematic inspection and documentation of campus areas assigned to the Physical Plant Department. The department will use our existing work-order software to document and track recurring inspections as well as deficiencies that need correction. Uncorrected deficiencies will be reported to EH&S and executive management as recommended. Implementation is immediate.

#3 Employee and Student Training*

Training is provided to benefits eligible employees through an on-line training module that address high level safety issues, which is required to be repeated every two years. Training materials that address high level safety issues are provided to non-benefits eligible employees by the Human Resource department when they are hired. There is no specific training available from EH&S for the employees working in hazardous environments such as research and student labs, physical plant, and other areas. Furthermore, consistent training is not provided to students who are enrolled in labs containing hazardous materials or equipment. Some departments have training materials and maintain documentation of employee and student training, however, these materials have not been consistently reviewed and approved by EH&S

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

for adequacy. The lack of training and monitoring of completion of training could result in safety protocols not being followed and unsafe conditions on campus.

Recommendation #3a EH&S: Training materials for employees working with hazardous materials and equipment should be updated, and training should be provided to new employees in these areas at the time of employment. Annual training updates should be provided for all employees working with hazardous materials and equipment.

EH&S Director Response and Implementation Date: EH&S is pursuing a contract with a safety company to provide employee training by September 30, 2015. If the contract is not executed and additional safety specialists are hired, EH&S will provide the training by September 30, 2015. EH&S will provide ongoing training starting January 1, 2016.

Recommendation #3b EH&S: Training materials for students should be updated and monitored by EH&S. The Blackboard on-line learning system should be considered as an efficient way to enroll the students in the training and monitor completion. A policy should be developed that students complete the training prior to having access to the materials and equipment in the labs.

EH&S Director Response and Implementation Date: EH&S has obtained training documents and will work with the Academic Transformation department to incorporate the documents into Blackboard modules for student training in Fall 2015. If Blackboard modules are not available for the Fall semester, other training materials will be developed, and Blackboard training modules will be developed for use in Spring 2016.

#4 Policies and Procedures*

There are multiple documents on the UT Tyler website related to hazardous materials and equipment including:

- Hazardous Material Usage Protocol,
- Policy on Unauthorized Personnel in Hazardous Environments,
- Hazard Communication Program Manual,
- Laboratory Waste Management Guidelines Respiratory Protection Program,
- Chemical Waste Disposal Satellite Accumulation Form, and
- Commonly Observed Fire Safety Violations.

Some of these documents have not been updated to include current requirements. For example, the Hazardous Material Usage Protocol policies and procedures available on the EH&S website is over 10 years old. The Laboratory Waste Management Guidelines are also available on the EH&S website but have not been updated since 2003 and the Hazard Communication Program Manual has not been updated since 2001. Some departments have policies and procedures related to safety and inspections, however these have not been reviewed by EH&S for adequacy. Other departments, including Physical Plant, do not have separate policies and procedures related to safety and inspections. Current policies and

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

procedures are needed to assure safety protocols are communicated to prevent accidents, injury or death to students, employees, and visitors and inspections are conducted as required.

Recommendation #4a EH&S: Policies and procedures should be updated and communicated to employees who are responsible for hazardous materials and equipment throughout campus. These should include procedures for reporting hazardous materials and equipment inventory and purchases to EH&S. EH&S should obtain departmental policies and procedures from managers who have hazardous materials or equipment and review them for adequacy.

EH&S Director Response and Implementation Date: Policies and procedures will be updated by October 31, 2015 by the Director of EH&S if the additional staff has been hired to absorb department responsibilities.

Recommendation #4b Physical Plant: Policies and procedures should be developed and communicated to employees in the department who are responsible for hazardous materials and equipment.

Physical Plant Director Response and Implementation Date: Policies and procedures have been developed, posted on our departmental shared drive, and communicated to responsible individuals.

#5 High Risk Monitoring Plans

UT Tyler requires a risk monitoring plan for university high-risk areas which details operating, supervisor and oversight controls. EH&S is responsible for implementing the Lab and Classroom Safety Monitoring Plan and the HazCom Monitoring Plan. The plans include requirements for employee training; development of policies and programs; and inspection of campus facilities, construction projects, hazardous materials, and equipment. The plans also require quarterly reporting of any exceptions to the Institutional Compliance Office and annual reporting to the Compliance Working Group. The plans are not fully implemented and reporting is not complete. Inadequate monitoring and reporting could result in safety standards not implemented and risks not adequately addressed.

Recommendation #5 EH&S: The monitoring plans should be implemented and required reporting should be completed.

EH&S Director Response and Implementation Date: The monitoring plans will be updated by January 31, 2016, however, implementation of the plans will be dependent on filling the increased staffing levels.

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

#6 Department Safety Liaison (DSL) Program

The DSLs are responsible for attending monthly EH&S safety meetings, completing safety inspections of their assigned campus areas, and reporting the results of the inspections to EH&S. Currently,

- DSL's are not identified for each department;
- DSLs are not provided with a list of rooms assigned to them for inspections;
- DSLs are not regularly attending the monthly training meetings or completing the inspections;
- There is no consistent follow-up conducted for DSLs not fulfilling their responsibilities; and
- There is no consistent follow-up to monitor the issues noted in inspections.

The lack of an effective DSL program could result in untrained personnel with responsibility for the safety of people and facilities as well as unsafe conditions on campus not reported or corrected.

Recommendation #6a Interim Vice President for Administration: The DSL program should be reviewed to determine the most effective manner to assign personnel and assure all areas of campus are included. The DSLs should be required to attend monthly training meetings or send an alternate. The DSLs should also be required to complete the required inspections. Executive management should emphasize the importance of completing these important responsibilities.

Interim Vice President for Administration Response and Implementation Date: Executive management will become more involved in the DSL program and will 1) insure all areas of the university are covered, 2) communicate to all DSLs the importance of attending meetings and the actions to address absences, and 3) monitor inspections with assistance from the Compliance Officer. The details of these plans have been documented, and the plans will be fully implemented by September 30, 2015.

Recommendation #6b EH&S: EH&S should review campus areas and provide a list of rooms assigned to each DSL. EH&S should monitor attendance at monthly meeting, completion of monthly inspections, and issues noted. Specifically trained employees should be assigned the inspection responsibilities for labs and other areas on campus that contain hazardous materials. The DSLs, their supervisor, and executive management should be contacted if the DSLs do not fulfill their responsibilities of meeting attendance and inspections.

EH&S Director Response and Implementation Date: EH&S staff are currently identifying all locations on campus and DSLs to assure complete campus coverage with implementation expected by September 30, 2015. EH&S will continue to monitor meeting attendance, inspections, and issues noted. EH&S will inform management of personnel who do not complete their responsibilities.

**The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015**

#7 Environmental Safety Committee*

UT Tyler has an Environmental Safety Committee which is chaired by a member of the faculty and includes the Director of EH&S as an Ex-Officio member. The committee responsibilities include:

- Evaluation and development of recommendations for environmental safety and the quality of the environment for learning;
- Monitoring and making recommendations concerning campus wide safety and environmental regulatory compliance issues and related health and safety matters;
- Reporting to the President or designee through the Faculty Senate; and
- Submitting monthly activity reports and recommendations to the Faculty Senate.

There is no documentation of committee meetings or reports in FY 2014 or FY 2015. The lack of an active and effective safety committee could result in safety issues not being monitored, reported and addressed.

Recommendation #7 Interim Vice President for Administration: The Environmental Safety Committee should fulfill its responsibilities as required.

Interim Vice President for Administration Response and Implementation Date: The reporting structure and membership of the committee will be reviewed by executive management. The committee chair will be held accountable for fulfilling the assigned responsibilities and required to submit meeting minutes to the Vice President of Administration and the Provost, if the current structure and composition of the committee is continued.

EH&S DIRECTOR SUMMARY COMMENTS

The EH&S department has absorbed many responsibilities in the past few years without additional resources. These include the following:

- Safety inspections and monitoring for the construction of several buildings and renovation projects on campus;
- Determining and reporting occupancy loads of buildings and classrooms that have been revised to accommodate growth of enrollment and changing needs of the campus;
- Environmental and safety oversight of charter elementary schools in three different cities beginning in FY 2012.
- Safety inspections and related maintenance issues from the acquisition of a student housing complex consisting of 14 buildings; and
- Ongoing inspections required by fire and life safety of the growing campus.

Additional resources have been requested for several years to assure adequate coverage of the safety risks on campus, however, these resources have not been provided in the past. EH&S has been given authorization to hire an additional safety specialist and increase the part-time Administrative Assistant to a full-time position. With this additional staff, EH&S will be able to meet more of the department requirements. The department will continue to inform executive management of high risks that have not been addressed and known violations of rules and regulations on an ongoing basis.

The University of Texas at Tyler
Campus and Laboratory Hazardous Materials and Equipment Safety Audit
Fiscal Year 2015

***Note:** In accordance with UTS 174, the UT System Office of Risk Management conducted a review of the UT Tyler EH&S program and issued a report in December 2012. A related observation and recommendation was included in their report, but has not been implemented.

CONCLUSION

UT Tyler does not have an effective safety environment to mitigate the risks related to hazardous materials and equipment located on campus for use in student labs, research labs, and campus operations. This could result in damage to property; injury to students, employees, and visitors; and fines and sanctions from regulatory agencies. Recommendations included in this report will help reduce risks and protect the campus community. Executive Management should determine the most efficient and effective process to increase the safety environment and oversight of hazardous materials and equipment.

We appreciate the assistance of the departmental management and administrative assistants, especially the EH&S department personnel, during this project.