Report on Safety, Health, Environment and Risk Management Audit #14-122

We have completed our audit of the Safety, Health, Environment and Risk Management program. This audit was performed at the request of the UTHealth Audit Committee and was conducted in accordance with the International Standards for the Professional Practice of Internal Auditing.

BACKGROUND

Safety, Health, Environment and Risk Management’s (SHERM) primary mission is to work in conjunction with the UTHealth community to ensure education, research, and health care service activities are optimally safe and healthy for all students, faculty, staff, visitors and the general public. Simply put in its mission statement, SHERM exists to “help people go home as safe and healthy as they arrive”.

SHERM is comprised of several areas, each having safety programs specific to their respective areas:

- **Biological Safety** - The Biological Safety Program is responsible for assisting all levels of management in fulfilling the commitment to furnish a place of employment and learning that is as free as possible from recognized biological hazards that cause or are likely to cause harm to visitors, personnel, or the surrounding community. Biological hazards can include pathogens or infectious substances such as bacteria, viruses, or other toxins known to produce harm to humans, animals, or plants and are typically measured by the severity of it virulence. Biological hazards can also include potentially infectious materials or products derived from living organisms such as human cells or tissues.

- **Chemical Safety Program** - Chemical hazards can be defined as “a chemical for which there is statistically significant evidence based on at least one study conducted in accordance with established scientific principles that acute or chronic health effects may occur when exposed to individuals”. This can include explosives, pyrophorics, toxins, carcinogens, highly toxic chemicals, and nanomaterials.

- **Radiation Safety Program** - The Radiation Safety Program’s fundamental objective is to ensure the safety of UTHealth faculty, and other individuals while enjoying the scientific benefits available through the use of radiation-producing machines and radioactive materials. Radiation producing devices can include x-ray machines or lasers and must be registered with the State. Operators must be trained in order to operate the device and must be protected during the device’s operation. The
Radiation Safety Program also includes safety procedures covering the use and handling of radioactive materials such as radioisotopes and irradiators.

- **Occupational & Fire Safety Program** – The Occupational and Fire Safety Program is comprised of many elements related to the university’s operations and activities as a whole with an emphasis on control of physical hazards as well as fire protection and safety.

- **Environmental Safety** – The Environmental Protection Program (EPP) is a unique component of the Environmental Health and Safety Department that comprehensively evaluates, monitors, and controls environmental releases in the form of air, water, hazardous waste in order to ensure the releases to the environment are safe, compliant, and cost effective. The EPP utilizes a systematic approach to managing materials that may potentially and adversely affect the environment and the UTHealth community.

There are numerous federal/state statues and guidelines as well as other regulating entities governing the activities of each of the safety programs at UTHealth. Sources include but are not limited to: the Texas Administrative Code, Texas Radiation Control Act, Texas Hazard Communication Act, National Institute of Health (NIH) Guidelines, U.S. Department of Labor Occupational Safety and Health Administration (OSHA), and the Center for Disease Control.

**OBJECTIVES**

The objectives of this audit were to review the monitoring and control processes for each of the safety programs and to determine whether the respective programs have been implemented.

**SCOPE AND METHODOLOGY**

For each of the safety program areas, Auditing and Advisory Services (A&AS) gained an understanding of the relevant rules and regulations governing each respective area by review of documentation and discussions with appropriate institutional personnel. Based on this understanding, we compared institutional policies and program safety manuals for each area to determine whether UTHealth has established adequate safety programs to meet the requirements for relevant laws and regulations.

We also reviewed documentary evidence considered to be key indicators of operation for each safety program area in order to determine whether the safety programs had been implemented and were actively operating.

**AUDIT RESULTS**

A&AS reviewed documentary evidence for each of the five safety programs making up SHERM in order to determine whether the programs have been implemented. In order to complete this portion of our work, we examined each of the following major components of the safety programs for evidence of operation.
• Compliance with Regulations - Each of the programs' safety manual were reviewed and compared to the statute(s) relevant to the safety program area. This review included a detailed analysis of each of the regulations' sections and sub-sections and cross-referenced to the safety manual to verify the program appropriately met the requirement. We also reviewed other guidelines and standards that were considered best practices and used in developing the respective safety manual. Based on our comparison, all of the safety programs meet the requirements of their respective statutes and have incorporated other guidelines and standards considered to be best practices into the safety program.

• Committee Meeting Minutes – For each safety program that was required to establish a working committee, meeting minutes were reviewed to confirm the committees met on a regular basis, quorums were met, protocols were reviewed and activity reports were presented.

• Monitoring – Activity reports prepared by Environmental Health and Safety were reviewed to determine whether monitoring occurs and its frequency. We noted monitoring reports were presented to management on a monthly basis and data such as laboratory survey results, deficiencies, incidences by location, training by program, injuries by type, etc., was compiled.

• Incident Reporting – For every incident/accident occurring in a UTHHealth facility, SHERM performs an investigation to: identify the nature and cause of the incident, determine whether corrective action is warranted, and ensure regulatory filings are submitted if required. We reviewed a sampling of Incident/Accident Investigation Reports to verify the required information was captured, corrective action was followed, and required reporting was completed.

• Inspections – SHERM personnel perform inspections of the institution's laboratories to confirm applicable safety standards are being followed. Through a review of inspection reports, we verified the inspections are being performed, and where deficiencies were noted, corrective actions were taken.

• Inventories – The institution is required to maintain inventories for specific biological, chemical, and radiological elements. We verified these inventories are being maintained and verified by SHERM.

• Emergency Activities – A&AS reviewed materials for annual mock drills simulating hypothetical emergency situations. A&AS also reviewed routinely scheduled drills such as fire drills noting the location, and dates performed were appropriately documented.

• Training – We identified the types of training provided by SHERM or external organizations. We reviewed course material, attendance sheets and evidence of completion in order to verify training was provided and/or taken as required.
• **Continuing Education** – A&AS reviewed a sample of continuing education certificates to verify whether additional or advanced training was taken as required.

**CONCLUSION**

In our opinion, UTHealth’s SHERM has developed and implemented robust environmental, health, and safety programs, which are compliant with federal and state standards and regulations in order to ensure the safety of individuals within the UTHealth and general community.

We would like to thank the Safety, Health, Environment, and Risk Management director, and the department managers of Biological Safety, Chemical Safety, Radiation Safety, Environmental Protection, and Occupational Safety and Fire Prevention throughout the institution who assisted us during our review.

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