



U. S. Chemical Safety and Hazard Investigation Board

RECOMMENDATIONS STATUS CHANGE

SUMMARY

Report:	Texas Tech University Chemistry Lab Explosion
Recommendation Number(s):	2010-5-I-TX-R4
Date Issued:	September 30, 2011 (released October 19, 2011)
Recipient:	Texas Tech University
New Status:	Closed – Acceptable Action
Date of Status Change:	June 1, 2015

Recommendation Text(s):

Develop and implement an incident and near-miss reporting system that can be used as an educational resource for researchers, a basis for continuous safety system improvement, and a metric for the university to assess its safety progress. Ensure that the reporting system has a single point of authority with the responsibility of ensuring that remedial actions are implemented in a timely manner.

Board Status Change Decision:

A. Rationale for Recommendation

On January 7, 2010, a graduate student within the Chemistry and Biochemistry Department at Texas Tech University (TTU) was severely injured after the chemical he was working with unexpectedly detonated. The CSB investigated this incident and found systemic deficiencies within TTU that contributed to the incident. Specifically, the physical hazard risks inherent in the student's research were not effectively assessed, planned for, or mitigated; the university lacked safety management accountability and oversight; and previous incidents with preventative lessons were not documented, tracked, and formally communicated.

As a result of these findings, the CSB issued a recommendation for TTU to create an incident and near-miss reporting system to be used to inform continuous improvement, as an educational resource and to assess its progress in improving safety.

B. Response to the Recommendation

Following the incident, TTU retained the Laboratory Safety Institute (LSI)¹ to consult with them on improving their culture of safety at TTU. TTU also formed the Institutional Laboratory Safety Committee (ILSC) to advise and develop policies and protocols for high risk chemicals.

In 2012, TTU noted that previously the Department of Chemistry and Biochemistry maintained an incident and near-miss reporting system, but that work was beginning on system for all units with laboratories, studios or large equipment. In addition to the CSB recommendations, TTU created seven recommendations as a result of their internal investigation.

¹ The Laboratory Safety Institute is a non-profit organization that promotes safety in science education. Their website (www.labsafetyinstitute.org) indicates that they have trained "over 100,000 professionals from secondary schools, universities, colleges, government, industry and more."

In 2014, the TTU ILSC beta-tested and established the Safety Concerns and Near-Misses reporting system (SCAN). The submission of near-misses is through an online submission form available at: <http://www.dept.ehs.ttu.edu/ehs/EHSHome/scan/Create>, and also on the Environmental Health and Safety (EH&S) website at: <http://www.dept.ehs.ttu.edu/ehs/ehshome>. The reporting system requires the location, date and description of the event, but also allows for the incident to be reported anonymously. Unsafe acts, conditions, equipments, and practices are all reportable under the system. Incidents, as opposed to near-misses and concerns, are reported directly to the Office of Risk Management and EH&S. Incident findings and lessons learned are then publicized to the school on the Safety@TTU website (<http://www.depts.ttu.edu/vpr/integrity/lessons-learned/>). The SCAN system is promoted through posters, emails, the President's weekly newsletter, discussion at ILSC meetings and in information provided to new students at the beginning of the semester. In addition to the above, TTU has created the Blog at Safety@TTU as well as the @TTUSafety Twitter account, which are updated regularly.

The single point of authority with responsibility for ensuring that remedial actions are implemented in a timely manner is the new Assistant Vice President for EH&S. In addition, the ILSC developed a framework and procedures for responding to incidents. The procedures bring the incident to the ILSC and the ILSC determines if the incident needs to be escalated to the leadership in the Department, College, and Provost's Office.

C. Board Analysis and Decision

Based on the above described creation and implementation of a near-miss reporting system, the Board voted to change the status of CSB Recommendation No. 2010-5-I-TX-R4 to: “**Closed – Acceptable Action.**”