

Laboratory Safety – Position Paper Outline

Mission: To proactively implement a “Culture of Safety and Compliance” within laboratory environments associated with academic institutions; particularly as a foundational component of academic scholarly excellence.

Background: The necessity for colleges and universities to keep their faculty, staff, students, and visitors safe during teaching and research activities is critical for their growth, success, and long-term sustainability. Recent significant events, such as the death of a laboratory research assistant in 2008 in a flash fire at the University of California Los Angeles (UCLA) or the 2010 explosion at Texas Tech University (TTU) that severely injured a graduate student has raised awareness and highlights the need for a national solution. CoR/APLU ought to team up with other national university associations such as AAU and science societies such as the American Chemical Society (ACS) and proactively participate in this national dialogue and take a leadership position in defining possible solutions for advocacy and implementation.

By way of background, the National Research Council (NRC) issued *Safe Science: Promoting a Culture of Safety in Academic Chemical Research* October 2014, which offers recommendations for university administration, faculty and university associations in response to the national epidemic of accidents in laboratories on university campuses. The Campus Safety Health and Environmental Management Association (CSHEMA) has been addressing this concern and has brought forward a model of self-accreditation to consider. The Laboratory Safety Institute has developed programs for implementation at many universities. The American Chemical Society (ACS) has provided a framework to help establish the culture of safety in university laboratory settings. A model involving voluntary accreditation similar to one used by the Association for the Accreditation of Human Research Protection Programs (AAHRPP) or the Association for Assessment and Accreditation of Laboratory Animal Care (AAALAC) may be appropriate since both accreditation bodies have become part of the academic fabric for excellence and are accepted as governance and oversight mechanisms. From amongst these current or potential solutions, there is likely an approach to consider supporting from CoR’s perspective.

Identified Need: Academic institutions are in need of a solution based on best practices that will permit them to: 1) Understand practical steps in implementing a ‘culture of safety’ in their laboratories; 2) Document their commitment to laboratory safety excellence in order to benchmark against leading practice; 3) Document their compliance with national, state, and institutional laboratory policies; 4) Showcase their dedication to preventing and managing injury of individuals performing laboratory activities; and 5) Limit the liability of college and university leadership

by meeting established standards of excellence, including implementing mechanisms to document an institution's commitment to developing and preserving a culture of safety and compliance.

Convergent Paths for Exploration by The Task Force: Recent and ongoing efforts by the U.S. Chemical Safety Board, ACS, NRC, and CSHEMA reflect both concern and focus on the absence of a lab safety culture in universities and colleges.

CSHEMA's mission is to support and educate campus-based EHS professionals to empower and to improve institutional environmental health and safety programs in academic campus environments. CSHEMA has focused recent efforts to improve laboratory safety culture. Under one proposed initiative, CSHEMA has recommended that a voluntary self-assessment rating system be implemented. The rating system will include checklists and recommends certification from an outside vendor.

The NRC, through its Board on Chemical Science and Technology and Board on Human Systems Integration, began assessing safety of chemical research activities within non-industrial settings. The final report provides recommendations for systems, practices, and training designed to improve the culture of safety in academic research laboratories. It also contains a recommendation to APLU and other associations to establish an anonymous reporting system of incidents and near-misses in order to aggregate learning from these experiences.

The Laboratory Safety Institute (LSI) is a nonprofit education organization that provides safety training, program audits, inspections and consultation services. The inspection and audit services offered are performed on a fee-for-service basis and are intended to provide organizations an external assessment of the following areas: biological and animal hazards, chemical disposal, chemical handling and storage, electrical hazards, emergency procedures and preparedness, housekeeping, radiation safety, safety equipment, safety program and ventilation.

Other disciplinary societies are considering or have considered similar issues - -such as the microbiologists. Would the components of a culture of safety for chemistry labs be similar to those that would be useful in other laboratories on campus?

Voluntary laboratory safety accreditation is another option, but has yet to be developed and institutionalized. Conceptually, accreditation standards could be developed that focus on programmatic areas, including assessments of the following: biological hazards, blood-borne pathogens exposure control, chemical hazards, controlled substances, electrical hazards, fire control, hazard communication, laboratory waste management, occupational health, and radiological hazards.

Implementation Costs: The cost for implementation of a lab safety program that embraces cultural adoption program is unknown and would need examination by the task force.

Ideal Outcome: Production of a national, optional voluntary mechanism responsive to the U.S. Chemical Safety Board recommendations, the ACS recommendations, the NRC recommendations and based on communication and collaboration with the ACS best practices, those of appropriate other disciplinary societies and CSHEMA's efforts.

Critical Next Steps: CoR should establish, through the Executive Committee, a laboratory safety task force and associated charter. The charter should provide direction related to collaboration with other associations -- particularly the AAU, task force membership, scope and objectives, goals and deliverables, success measures, resources, and primary assumptions and boundaries. The final report from the task force should be made available to the CoR Executive Committee before the APLU Annual Meeting in November 2015.

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