

Risk Assessment's New Era, Part 3

Vision of the AIHA® Risk Assessment Committee

BY ALAN ROSSNER AND G. SCOTT DOTSON

Editor's note: This article is the third in a series sponsored by the AIHA Risk Assessment Committee highlighting research and policy initiatives that are shaping the future of risk assessment in industrial hygiene. Part 1 appeared in the April 2012 issue, and Part 2 appeared in the May 2012 issue.

Although industrial hygienists have used risk assessment for many years, some practitioners might not recognize it as a core element of the profession. Industrial hygienists routinely evaluate risk by assessing the hazard and exposure to chemical and physical agents, characterizing the subsequent risk and developing control strategies to reduce the risk. However, the process can go much deeper. This article presents the vision of the AIHA Risk Assessment Committee (RAC) for better integrating risk assessment into industrial hygiene practice.

Proactive Stance

Risk assessment has been the focus of groundbreaking reports from the National Academy of Science, including "Risk Assessment in the Federal Government: Managing the Process," published in 1983, and "Science and Decisions: Advancing Risk Assessment," published in 2009. While several agencies—including but not limited to EPA, OSHA and the World Health Organiza-

tion (WHO)—have used risk assessment to set standards and guidelines, the risk assessment process has been criticized for its long duration and variability between different organizations. The typical industrial hygienist is not involved in standard-setting risk assessment, but often interprets a standard's implications for worker and community exposure and subsequent controls. Therefore, understanding the details of risk assessment and risk management, as well as the tools and techniques used to characterize risk, is critical in our profession.

Many new risk analysis techniques are being used primarily to assess environmental and community health risks. The application of these techniques in occupational settings has received less attention. If occupational health concerns are overlooked or addressed only as afterthoughts, the result could be a suite of risk analysis tools ill-suited for assessing and managing occupational and environmental hazards and risks. As health professionals, industrial hygienists need to take a proactive stance to ensure that new tools in the risk sciences can address the challenges posed by the occupational environment.

The details of environmental and occupational risk assessments differ, but the key steps are equivalent, and they

share the same goal of reducing the overall risk of an activity. We define risk as the probability of an adverse event, and risk assessment as the process of characterizing the risk of the event. Industrial hygienists often consider this risk characterization to encompass exposure and toxicity. It is important to recognize that risk assessment is a tool used in many settings, including standards development, process evaluations, hazardous waste cleanup and location-specific assessments.

The industrial hygienist's multidisciplinary background incorporates aspects of the physical and biological sciences, public health, engineering and management. This diversity gives industrial hygienists a unique perspective not shared by other, more specialized health professionals. Our skills and experiences can focus attention on the development of techniques and tools capable of assessing the health risks found within the workplace, which in turn will promote the value of our profession and help us meet the needs of the communities we serve.

Vision and Value

The vision of the RAC is to integrate risk sciences as a core competency within industrial hygiene. Whether we're focused on a specific hazardous agent (chemicals,

radiation, noise) or a wider concept (sustainability, management principles), we need to understand the nature and magnitude of the inherent risk. No single volunteer group within AIHA, including the RAC, has the ability or bandwidth to solely promote risk sciences as a core competency. It is imperative that we work together to build partnerships capable of facilitating the adoption of the risk sciences as a core competency, in addition to developing new risk analysis tools and approaches capable of helping industrial hygienists make better-informed decisions.

To accomplish this vision, the AIHA RAC supports the following:

Volunteer partnerships. In November 2011, AIHA sponsored a Risk Assessment Symposium titled "Converging Risk Analysis, Management, and Perception" at the Professional Conference on Industrial Hygiene. This symposium received high praise from attendees, in part because of the broad range of subjects (from product stewardship to advanced risk assessment techniques) covered by the presenters. Through strategic partnerships, we hope to build on this success by introducing new information and ideas related to risk assessment into the profession of industrial hygiene.

Continuing education. The RAC seeks to develop continuing educational opportunities such as professional development courses and webinars that focus on risk-related subjects. These subjects include new risk assessment techniques and enhanced risk management practices. Integrating risk assessment processes into all levels of industrial hygiene training is essential to advance risk sciences as a core competency. A network of volunteer groups can work to develop a series of courses that increase the risk assessment and risk management literacy of all AIHA members.

Exposure risk assessment and management (ERAM). ERAM is a simple framework that illustrates the core skills of the industrial hygiene profession. It combines hazard and exposure assessment

with the management of risk using the hierarchy of controls to prevent illness and injury in workers, customers and communities.

Occupational Alliance for Risk Sciences (OARS). OARS is a new initiative developed by the nonprofit Toxicology Excellence for Risk Assessment (TERA) to facilitate the sharing of information related to exposure guidelines for chemicals and other stressors, methods of improving occupational risk assessment, and training opportunities.

Idea exchange. An open and transparent dialog is necessary to develop useful tools and techniques for characterizing risk in occupational and community settings. The RAC proposes the development of a forum where representatives from industry, academia, government agencies, special interest groups and labor organizations can openly share new and ongoing efforts related to the use of the risk sciences in occupational settings.

The RAC recognizes that no single volunteer group within AIHA can exclusively lay claim to promoting the use of risk analysis within industrial hygiene. The RAC is only one volunteer group of many within AIHA, yet we hope to work with all volunteer groups and interested members to incorporate risk assessment more fully in our practices and culture. Industrial hygienists' ultimate goal has always been to reduce the risk of disease among workers or community members affected by workplace chemicals or agents. AIHA and individual industrial hygienists can generate their greatest impact through the use of advanced techniques for characterizing risk that allow for effective risk management. In Part 4 of this series, we will discuss our strategy for making the vision a reality. 🦋

Alan Rossner, PhD, CIH, CSP, is a professor in Environmental Health Science at Clarkson University in Potsdam, N.Y. He can be reached at rossner@clarkson.edu or (315) 268-6470.

G. Scott Dotson, PhD, CIH, is an industrial hygienist with CDC/NIOSH in Cincinnati, Ohio. He can be reached at fya8@cdc.gov or (513) 533-8540.



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