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RELATIONSHIPS BETWEEN THE PERFORMANCES OF HAZARD COMMUNICATION AND TRAINING PROGRAMS. C.W. Lu, J. Tsai, T. Wu, C. Chang, S. Lun, Occupational Safety and Health Institute, Kaohsiung City, Taiwan

The objective of this study is to survey the relationship between the performance of hazard communication and safety and health training programs in factories. The research groups have collected the performance scales of hazard communication as well as types of training programs, annual training times of each employee, etc.

The subjects are 185 factories and 385 employees. The questionnaires were developed to evaluate the performance of hazard communication. Also, a test developed by the research group was used to test the workers' chemical hazards knowledge.

T-test and chi-square test have been used to do data analysis. The results indicate that (1) safety and health training times affect the workers' scores on safety and health knowledge (P=0.033, N=385); (2) safety and health training times affect the safety and health perception of workers (P=0.032, N=337); and (3) safety and health training times affect the clear situation of work environments (P=0.024, N=354).

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OSHA GUIDELINES FOR HAZARD DETERMINATION. T.A. Towers, OSHA, Washington, DC; N. Page, ToxaChemica, International, Rockville, MD

The OSHA Hazard Communication Standard (HCS) requires that manufacturers and importers of chemicals determine their chemicals' hazards. Hazard determination (HD) is the first step in complying with the HCS and provides the basis for MSDSs, labeling, and training. OSHA has observed that many labels and MSDSs are improperly prepared due to inadequate HDs. It is recognized that many small businesses do not have staff trained in HD, and have difficulties in understanding the OSHA requirements and the procedures to use in the conduct of a HD. The HCS does not provide specific methods for HD. It is the purpose of these guidelines, under development, to provide a basic framework for the conduct of HCS Hds.

To conduct a HD requires the ability to obtain effectively key data on the physical and chemical properties and the laboratory and clinical test results of a chemical, and the interpretation of those data. The four basic steps are: (1) decide which chemicals require hazard determination, (2) collect data for the chemicals to be evaluated, (3) analyze the retrieved data and define the hazard(s), and (4) document the chemical's properties, including hazards identified. A format for the hazard profile of the evaluated chemical is presented. A decision-tree for the HD process is provided, along with an overview of the scientific principles involved in the HA process. In addition, a glossary of terms and definitions; matrix of primary information sources and their data content; listing of OSHA, NTP, and IARC carcinogens; and a listing of the OSHA-designated toxic and hazardous substances are provided. These guidelines will be published as an OSHA report available to the public. They may also be released via electronic media, including Internet file.

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ANSWERING KEY OSH QUESTIONS VIA THE WEB: A NEW APPROACH. C. Dumschat, J. Callaghan, R. Cockerline, L. Davison, Canadian Centre for Occupational Health and Safety, Hamilton, ON, Canada

For almost 20 years the Canadian Centre for Occupational Health and Safety (CCOHS) has run a free Inquiries Service designed to meet occupational health and safety information needs. Building on a wealth of past experience gained from answering over 250,000 inquiries, CCOHS has embarked on a new initiative to provide answers to a broad range of questions by setting up a free-of-charge Internet site based on its most frequently asked questions. Following a thorough evaluation of other health and safety Internet information sites, CCOHS has developed a framework for a topic-based approach to providing key health and safety information. Lessons learned in setting up the web site and strategies for developing state-of-the-art responses are presented.

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DEVELOPMENT OF TRAINING MODULES FOR THE NIOSH SMALL BUSINESS TRAIN-THE-TRAINER PROGRAM. J.N. Zey, A. Greife, Central Missouri State University, Warrensburg, MO; D. George, Western Kentucky University, Bowling Green, KY; B. Hayes, Morehouse School of Medicine, Atlanta, GA; M. Colligan, J. Palassis, NIOSH, Cincinnati, OH

Fifty-two million people work in establishments with fewer than 100 employees. Thus, small businesses employ 56% of all workers in nonfarm private businesses. Small businesses are typically underserved in the areas of occupational safety and health. Small businesses are not regularly inspected and have minimal access to occupational safety and health information. To help fill the void in available information, NIOSH initiated an occupational safety and health training program for small business personnel in 1989. This involved offering short continuing education courses through local colleges tailored to the specific informational needs of regional small business managers. From 1989 through 1994, 15 one-day training programs were conducted. In 1995 the small business training program was modified to focus on minority small business personnel. NIOSH has collaborated with the Morehouse School of Medicine and the Minority Health Professions Foundation (MHPF) to provide occupational safety and health training to minority small business owners and managers. Lack of safety and health information among small businesses is typically due to limited training funds and a lack of knowledge about available resources. One component of the NIOSH program is the development of curriculum designed for independent trainers who present occupational safety and health training programs to small business owners through existing university outreach programs. Four modules have been developed via contract and four additional modules are under development. Safety and health professionals from NIOSH, representatives from OSHA small business training centers, and faculty from MHPF schools reviewed draft modules. Following review, NIOSH project officers and the contractor evaluated each reviewer's comments. The revised modules will be available via the NIOSH toll free telephone number (1-800-35 NIOSH) and from the NIOSH home page (http://www.cdc.gov/niosh/homepage.html) via the Internet.

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BEHAVIOR-BASED METHODS APPLIED TO INDUSTRIAL HYGIENE. R.S. Stricoff, D. Groover, Behavioral Science Technology, Inc., Ojai, CA

Industrial hygiene is a field that requires a high level of technical competence. However, there is an ever-increasing need for industrial hygienists to utilize continuous improvement techniques found with Total Quality and to add new methodologies and tools to their set of skills. One area untapped by most industrial hygienists is behavior-based improvement techniques.

As in TQM and behavior-based safety initiatives, no matter how well thought out the procedure, reducing exposure to injuries requires managing critical behaviors. At-risk behavior is the final common pathway in most exposures. That makes behavior the key link in the chain of causation. A proactive industrial hygiene management process means identifying, measuring, and improving the systems that impact behavior. By improving these systems in a positive and proactive way, exposures can be reduced. Leading companies are using this approach to achieve continuous improvement in their IH performance.

This paper describes application of behavior-based approaches to industrial hygiene, focusing on the critical differences between industrial hygiene versus safety exposures and the approaches used at three sites. Special factors needed to achieve success are described.

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DETERMINING THE NEED FOR MEDICAL SURVEILLANCE AMONG FORMER WORKERS AT A US DEPARTMENT OF ENERGY SITE: METHODS AND RESULTS. K.B. Ertell, S. Barnhart, T.K. Takaro, K.H. Durand, University of Washington Occupational and Environmental Medicine Program, Seattle, WA

This report summarizes methods and results of a project to evaluate medical surveillance needs among former workers at the U.S. Department of Energy (DOE) Hanford site. Hanford produced plutonium for nuclear weapons beginning in the 1940s. DOE databases were used to identify and characterize the worker population. There were 104,770 individuals identified as working at Hanford from 1943-1997; this is probably an underestimate due to incomplete records. Of those, 91,525 are estimated to be alive. Worker exposure information was obtained by reviewing historical documents and industrial hygiene records, and interviewing long-term employees. A job exposure matrix was constructed to rank exposures qualitatively by job class for each work decade. The number of workers in each job class was determined, and numbers of exposed workers were then estimated using matrix predictors.

Abstracts

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