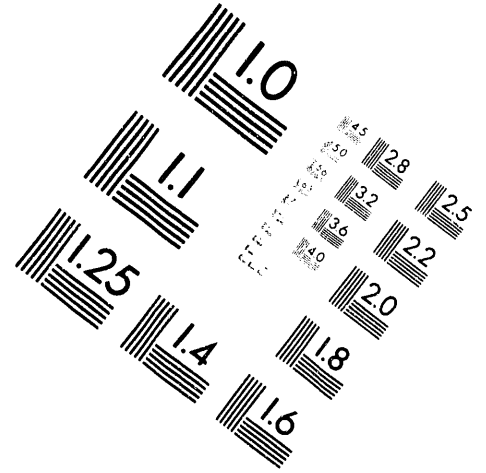
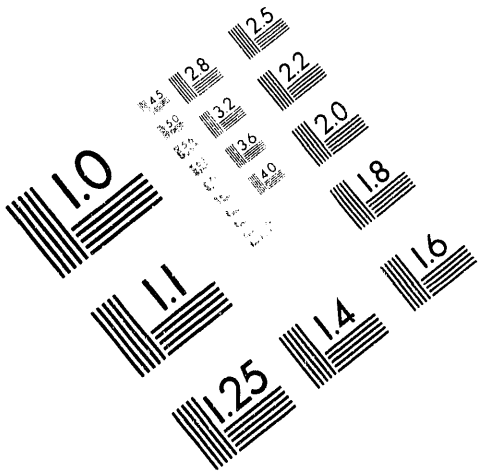




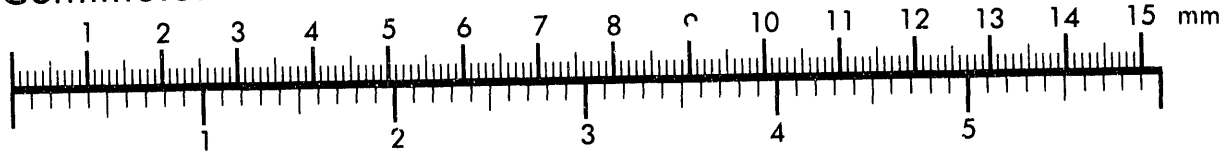
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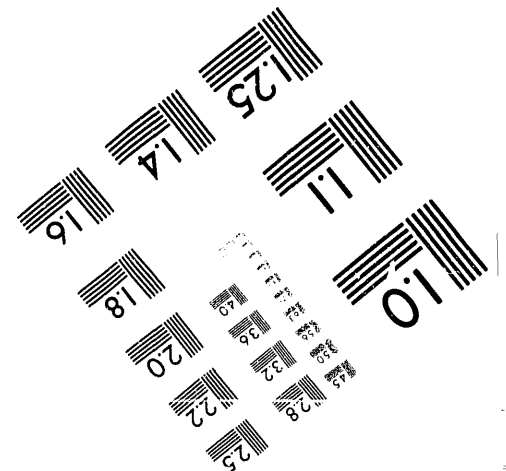
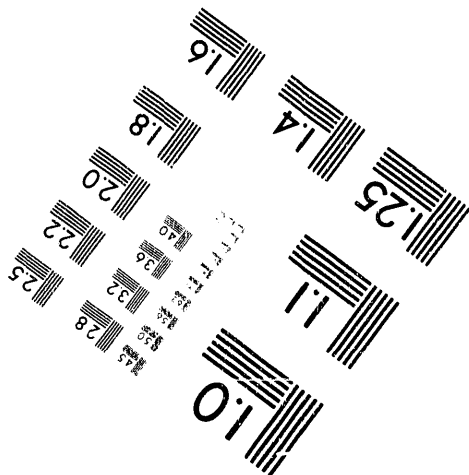
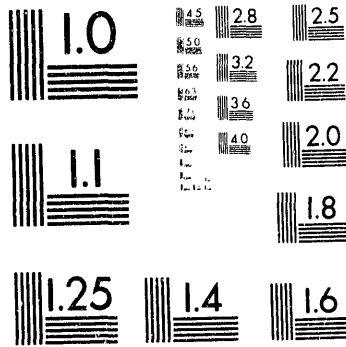
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INTEGRATING ENVIRONMENT, SAFETY AND HEALTH TRAINING AT A NATIONAL LABORATORY

By
Dean R. Larson

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INTEGRATING ENVIRONMENT, SAFETY AND HEALTH
TRAINING AT A NATIONAL LABORATORY

D. R. Larson

ABSTRACT

In a multi-purpose research laboratory, innovation and creativity are required to satisfy the training requirements for hazards to people and the environment. A climate that encourages excellence in research and enhances hazard minimization skills is created by combining technical expertise with instructional design talent.

Two Premises

The integration of environment, safety and health training requirements is based on two premises:

1. Nearly every environmental problem has a safety and health implication; seldom does a safety and health incident occur without an effect on the environment.

2. The disciplines and attendant concerns of environmental protection, occupational safety and industrial hygiene continue to grow closer with boundaries that are difficult, if not impossible, to define.

Premise Number One

Let us now examine these two premises. First, we look at the related incidents of safety hazards to man and to the environment.

A hazardous material spill increases the potential of environmental insult and toxic exposure while creating hazards to the responder and the public. A hazmat spill site, if not carefully controlled using the principles of the Incident Command System invites disaster, escalating a spill into a catastrophe to man and the environment. That catastrophe can result in multiple injuries and cases of overexposure.

Vehicle accidents, a leading cause of occupational injury, can result in fuel spills which can have very hazardous implications. Hazardous atmospheres can result in accidents caused by impaired motor activities. These accidents can result in environmental insult while responders tend to the personnel injuries.

I am certain that you can easily identify your own examples of health, safety and environmental protection.

Premise Number 2

Premise No.2, the disciplines which are dedicated to protection of people and the environment continue to grow closer and closer.

With the passage of the Superfund Reauthorization and Amendment Act in 1986, Congress institutionalized the bridge between safety and health and the environmental protection. SARA, as we come to know that regulation, is definitely within the purview of the EPA. Something very important happened with that law. Congress mandated OSHA to put in place a new standard which focused on the protection of workers at hazardous waste sites and of responders to hazardous materials incidents. Thus, Congress effectively created a regulation which requires all three discipline areas.

Further, the enactment of SARA Title III, Emergency Planning and Community Right-to-Know, enhanced the importance of the Material Safety Data Sheet. The MSDS was mandated by the 1983 OSHA Hazard Communication Standard. With SARA Title III MSDSs were spread to the local and state level, effectively ending the days of corporate chemical secrecy.

The OSHA Process Safety Standard (29 CFR 1910.119), RCRA Hazardous Waste Contingency Plan (40 CFR Part 265) and the Spill Prevention Control and Countermeasures Plan (40 CFR Part 112) are other examples of regulations with overlapping requirements.

We are reminded of the joining of these disciplines as we search the literature that crosses our desks. A professional development seminar sponsored by the American Society of Safety Engineers has an "Environmental Track." Those presentations include waste disposal, emergency response, HAZWOPER and indoor air quality. Doesn't sound much a safety engineers' professional development conference, does it?

Safety and health professionals are admonished to track actions of both the EPA and OSHA. EPA's approach to the use of TSCA, radon, second-hand smoke and lead will have strong implications for these professionals.

Increasingly, workers are being admonished to be part of the environmental compliance effort. For years we have been preaching safety and workers' responsibilities. Today, "environmental committees" are taking their places alongside "safety committees." The leadership of these environmental committees should be individuals who know OSHA, EPA and DOT rules. The committee agendas are filled with the environmental compliance needs of the corporation. It should be no surprise that training is on those agendas.

The head of the National Association for Environmental Management, Thomas Robinson, is quoted as saying, "ES&H activities are increasingly affecting the balance sheet, the income statement and bottom line of most companies." The National Safety Council includes "Environmental Management" as an element of a "successful Safety and Health Plan." The examples continue to increase.

Steelmaking Lesson

I learned a valuable lesson during my time as an ES&H compliance manager with a major steelmaker. I was charged with developing a cost-effective, efficient compliance program

which would "keep my boss out of jail." I was working in a Coke and Coal Chemical Operation, facing compliance with an impending OSHA Standard for the control of benzene exposure and an EPA National Environmental Standard for Hazardous Air Pollutants (NESHAP) regulation for the control of benzene emissions. Both standards had a very significant cost impact, particularly the Benzene NESHAP.

The steelmaker had divided the OSHA and EPA management of regulations; OSHA to the Personnel Organization and EPA to Engineering. Unfortunately, the first time compliance with **both** sets of regulations was first joined was on the desks of the individual operating division managers throughout the corporation. They were not even joined on the Plant General Managers' desks. This arrangement created the requirements to interface with both organizations on the plant and corporate level, often an inefficient situation.

As we approached compliance with both benzene regulations, it was obvious to us that one compliance program incorporating the more stringent requirements of both was the best course of action. Thus, we on the division level integrated environment, safety and health concerns as it affected benzene exposure control. The very interesting lesson that came to use was in the form of the routine briefings to the president of the corporation ... he was briefed on both programs simultaneously. He had identified the same thing we did. Integration of both the OSHA and EPA regulations was the most efficient and effective answer to benzene compliance.

Coordinated Enforcement

Lest we forget in our discussion of the integration of environment, safety and health, OSHA and EPA have started to join forces. Coordinated enforcement is becoming more accepted as time passes. Joint inspections and exchange of inspection are the initial steps taken to integrate efforts. Though we are much too early in the new Administration to make statements with much confidence, I do believe that it is safe to say that the coordinating efforts of these two agencies will increase.

Integration of ES&H Training

If you accept the validity of these two premises, I believe that you will agree with me that a safety and health training program that does not cover environmental protection (and vice versa) is not as effective and efficient as it could be. Now the challenge is to integrate these three important safety elements.

The approach that we use at Argonne National Laboratory at our Illinois site was the formation of an Environment, Safety and Health Training Section, part of the Lab's ESH Division. We staffed this section with Certified Industrial Hygienists, Safety Professionals, Health Physicists and Hazardous Materials Managers. Training that is traditionally associated with a particular discipline (for example, Health Physics and Radiation Protection Training) is backed up by other disciplines. Our Industrial Hygienist provides back-up for radiation protection training. The Hazardous Material Manager is assisted in environmental protection training by the Occupational Safety Trainer and the Industrial Hygienist, and so forth.

An extremely important element in our mix was the addition of Instructional Designers. These professionals provide the focus for instructional efforts. The Instructional Designer is charged with tutoring and coaching the trainers as they design and develop specific training. We have provided ES&H training to our Instructional Designers for professional broadening as we work on training integration. The Head of our Training Section has had ES&H compliance and training experience and is currently a PhD candidate in Instructional Research and Development.

As we approach each new training requirement, be it regulation-driven or otherwise, the ESH Training Section Leader assigns trainers as required with an eye toward combining new training requirements into existing courses. The last option as implementation progresses is the creation of a new training course.

Another tactic which has proven valuable is the creation of a new course specific to a particular division or group. We take the training requirements generated by our on-line Training Management System for each employee and develop clusters of training topics. The

result of this integration is a shortened in-class time which translates into increased time for research. Most of these courses do not become part of our training repertoire. Rather they are put on the shelf and become part of other group specific courses.

I would be remiss not to miss an extremely important result of this course integration. Our line managers respond positively to this integration of training requirements. We invite the line managers to be part of this integration asking for their input into course development.

Summary

Have we achieved the right mix at Argonne? We think so. That mix was not the result of magic or extraordinary vision. Rather, it was the product of an ESH manager's desires to view environment, safety and health as an integrated program. Thus, we focused our ESH Training Section to attack the integration problem. As our ES&H program continued to expand, it became expedient to form an environmental and waste management division, essentially removing the "E" from ESH. Interestingly, the ESH Training Section continues to provide environmental protection training because it makes good sense.

My last point is this. It just plain makes good sense. We do not need coordinated enforcement from OSHA and EPA, nor do we need Congress passing laws with overlapping requirements to realize that the complexity of the hazards that we face increase and demand better ways to minimize the risks associated. The integration of environment, safety and health requirements is a better way to minimize those risks.

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