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TRANSFERRING GENERIC SARA/OSHA TRAINING TO U.S. DEPARTMENT OF ENERGY FACILITIES

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ABSTRACT

The Technical Resources and Training Section staff at Oak Ridge National Laboratory have developed three extensive training programs for hazardous waste treatment, storage, and disposal facility workers as required by SARA/OSHA, 29 CFR 1910.120. The ORNL program is widely recognized as one of the best in the DOE system. ORNL and ORAU, who manages the Training Resources and Data Exchange (TRADE) network for DOE, entered into a cooperative relationship to respond to the many requests from DOE contractors for copies of the ORNL training materials.

This discussion will describe the ORNL program and the process of turning it into a series of generic tools which can be used by additional DOE facilities to meet the training requirements established by SARA/OSHA, 29 CFR 1910.120. The speakers will describe how the materials are being used by DOE facilities as well as plans for additional resources to be developed through TRADE.

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BACKGROUND

Among the requirements set forth by the interim final rule, 29 CFR Part 1910.120,[1] promulgated by the Occupational Safety and Health Administration (OSHA) in response to the Superfund Amendments and Reauthorization Act of 1986 (SARA),[2] are specific provisions for health and safety training of employees involved in hazardous waste operations. Employees involved in operations at uncontrolled hazardous waste sites must receive a mimimum of 40 hours of initial instruction off the waste site, and a minimum of 3 days of actual field experience under the direct supervision of a trained and experienced supervisor at the time of job assignment. This requirement applies to employers and employees engaged in the following operations:

* Operations involving hazardous substances that are conducted under the Comprehensive Environmental Reponse, Compensation, and Liability Act of 1980 (CERCLA),[3] including initial investigations of CERCLA sites before the presence or absence of hazardous substances has been ascertained;

* Clean-up operations involving major corrective actions conducted under the Resource Conservation and Recovery Act (RCRA) of 1976;[4]

* Operations at hazardous waste sites that have been designated for cleanup by state or local government authorities.

The interim final rule also regulates facilities involved in hazardous waste treatment, storage, and disposal operations as regulated under RCRA Section 3004. These sites generally have more routine working conditions and the hazards are better identified and controlled than at those hazardous waste disposal sites created prior to passage of RCRA. For this reason, the interim final rule requires 24 hours as the basic level of training appropriate to these working conditions.

Managers and supervisors who are directly responsible for or who supervise employees engaged in hazardous waste operations must complete 8 additional hours of training related to management of hazardous waste site activities.

ORNL SARA/OSHA Training Program

A training program has been developed by the Technical Resources and Training Section staff at Oak Ridge National Laboratory (ORNL) to comply with the need to protect the safety and health of hazardous waste workers. All hourly requirements established by the OSHA requirements are met by a comprehensive program structure involving three stages of training.

Most ORNL hazardous waste workers are involved in routine treatment, storage, and disposal operations and require 24 hours of classroom instruction and field exercises. For those employees who may engage in remedial action waste clean-up operations, 16 additional hours for a total of 40 total hours of training are provided. In addition to this training offered the hazardous waste worker, managers and supervisors involved in hazardous waste operations also receive 8 hours of training relevant to their responsibilities.

OSHA made use of the guidance manual entitled "Occupational Safety and Health Guidance Manual for Hazardous Waste Site Activities"[5] as an outline in preparing the interim final rule. This manual was developed as a result of the collaborative efforts of professionals representing OSHA, the Environmental Protection Agency (EPA), the U.S. Coast Guard (USCG), and the National Institute for Occupational Safety and Health (NIOSH). It has proved to be a valuable reference tool in the development of the ORNL training program.

Basic SARA/OSHA Training for General Site Workers

Basic Training for General Site Workers is offered to meet the 24-hour requirement for employees engaged in treatment, storage, and disposal of hazardous waste. This training, which is a prerequisite to the other two courses, includes fundamentals of industrial hygiene presented to the workers in a format that encourages them to assume responsibility for their own safety and health protection. Consistent with health and safety guidelines for hazardous waste site activities developed jointly by NIOSH/OSHA/USCG/EPA, this program addresses the following topics:

* Overview of Regulations	* Site Control
* Types of Hazards	* Site Characterization
* Sources of Information	* Medical Surveillance
* Toxicology	* Decontamination
* Respiratory Protection	* Emergency Response
* Personal Protective Equipment	

Much of this course is concerned with recognition of the types of hazards that may be encountered in hazardous waste operations and what the worker may do to minimize those hazards. General categories of hazards that are discussed include chemical hazards, ionizing radiation, confined spaces, noise, heat stress, cold stress, asbestos, biological hazards, and safety hazards.

Each of the topics listed above as well as each type of hazard has been developed into a complete training "module" with lesson plan and supporting visual aids and/or demonstrations. Each module contains learning objectives, basic information, site-specific information, and a review of key points.

SARA/OSHA Training for Remedial Action Workers

ORNL, like many other DOE sites, is embarking upon some large-scale remedial action cleanup activities. For those ORNL workers engaged in remedial action activities on site, an additional 16-hour course is offered to build upon the prerequisite 24-hour course and meet the 40-hour training requirement. Compared to the Basic course, this training allows more time for site-oriented exercises, "hands-on" activities, and more intensive practice with protective clothing and equipment involving all of the trainees.

SARA/OSHA Training for Remedial Action Workers:

* Acquaints the trainee with various planned and ongoing remedial action projects at ORNL,
* Provides more detailed information on site characterization and decontamination techniques,
* Introduces trainees to risk assessment,
* Discusses handling of drums and other containers,
* Provides intensive training with the use and limitations of a self-contained breathing apparatus,
* Gives hands-on training in the use of select monitoring instrumentation, and
* Involves the trainee in protective clothing dress-out and decontamination exercises.

SARA/OSHA Training for Managers and Supervisors

An 8-hour course has been developed for supervisors and managers of hazardous waste operations and waste cleanup activities. This training begins with an overview of factors influencing remedial action strategies at ORNL sites. Other topics covered in this training include selection of personal protective equipment, emergency response and community right-to-know, and legal aspects of worker supervision. Handling the press and the media discusses strategies to be utilized in interview situations. An out-of-class exercise on accessing ORNL's computerized Material Safety Data Sheet System is included. Because the interim final rule requires three days of training in the field under direct supervision of a trained and experienced supervisor, a workshop in on-the-job training skills is included, with discussions about documentation of this type of training. A group-oriented exercise in potential problem analysis and contingency planning applied to cleanup of a hazardous waste site completes the day of training.

Considerable effort was spent developing the ORNL SARA/OSHA Training for Hazardous Waste Site Activities. The training staff at ORNL realized that much of the material developed for this program, particularly the Basic 24-hour course, is generic in nature and could be used as the basis for programs developed by other facilities. Not unexpectedly, as the program became recognized, requests for training materials began to arrive from other DOE sites that were addressing compliance with this new regulatory training requirement. Oak Ridge Associated Universities manages the Training Resources and Data Exchange (TRADE) network for DOE. Close to 50 facilities across the national DOE system participate in TRADE activities designed to exchange training-related information and develop consensus-based resources. To provide these materials across the DOE system, ORAU and ORNL entered into a cooperative relationship to publish generic portions of the ORNL training program in a series of TRADE documents.

CREATING A GENERIC RESOURCE

Site-Specific versus Generic Considerations

The program missions, types of employees, and hazards on site vary widely across DOE facilities. Although all DOE facilities must comply with requirements established in DOE orders and policies, decisions about compliance with other federal statutes can depend on the jurisdictional DOE operations office and, in some instances, on the decision of the individual facility. (All DOE facilities, however, are required to meet standards promulgated by OSHA according to DOE Order 5480.4 and 5483.1A.)

Given these differences in DOE facilities and their adherence to various standards, the process of creating a generic resource required recognition of this variance across the DOE system. During a working session held several years ago, representatives from more than 20 DOE facilities who were directly involved in providing training in areas related to industrial hygiene and waste management identified three primary drivers for the development of hazardous materials training: training to the regulation, training the worker, and training for the hazard. Each approach has inherent site-specific issues associated with it which must be addressed in the process of designing a generic series of tools which can be used by many facilities. Some of the issues are identified below:

Issue Set 1: Training to the Regulation

Site-Specific Considerations:

* Site-specific interpretation of the regulation
* Site-specific liabilities and legal issues (personal and corporate responsibilities)
* Site-specific issues associated with review of compliance (for example, who visits the site to assure compliance?)

Generic Considerations:

* Establishing training required by minimal standards
* Meeting training specifications established in regulations

Issue Set 2: Training the Worker

Site-Specific Considerations:

* Site-specific worker knowledge and skill requirements
* Site-specific issues associated with unions, grievance procedures, other employee processes
* Site-specific scenarios, lab exercises

Generic Considerations:

* Processes for assessing worker baseline knowledge
* Processes for establishing worker performance measures

Issue Set 3: Training for the Hazard
Site-Specific Considerations: * Site-specific hazards * Site-specific policies and procedures for dealing with hazards Generic Considerations: * Characterizing the hazard (unless unknown or mixed) * Distinguishing between real and perceived hazardous environments * Interactions required with external organizations * Minimal procedures required by specific hazards (protective clothing, etc.)

Because the ORNL training program was developed in response to 29 CFR 1910.120, it clearly used the requirements of the new regulation as a driver. The decisions made by ORNL management to comply with the requirements and to develop the training in 24-, 8-, and 16-hour segments were made after extensive analysis of the new regulations, hazardous sites within the facility, and ORNL worker baseline knowledge. Each DOE facility will go through a similar analysis to determine how best to comply with training requirements. The intent of the generic materials is to provide DOE facilities with tools which will prove helpful in implementation once each has determine a course of action.

Developing Generic Resources

The first step in the process of transforming the ORNL training program into a series of generic training tools was to have the ORAU members of the development team participate in the training session as trainees. Once all the players were knowledgeable about the training program, the team concentrated on transforming the site-specific materials used in the ORNL course into training tools which could be used by a range of DOE facilities. Three primary skills and knowledge were determined to be needed by team members:

1) Subject matter expertise (provided by ORNL)
2) Knowledge of training needs across the DOE system (provided by ORAU)
3) Instructional design skills needed to look beyond site-specific information and create checklists, generic exercises, scope statements, and similar tools which could be used by other facilities (provided by ORNL and ORAU)

All of the overhead transparencies which had been assembled by the ORNL staff (the initial 24-hour training session used almost 400) were reviewed and site-specific references were removed. To each module, the development team added a statement of scope, a listing of participant goals, a checklist for instructor preparation, and a listing of recommended instructional activities. ORNL provided a copy of the instructor's written notes for each module. The notes consisted of the actual words used to present each overhead, keyed to the overhead. ORAU used the notes to prepare the "instructional activities" pages and to make sure that the overheads were cited with the correct subject matter. Because ORAU prepared the document for use by subject matter experts at DOE facilities; the "instructor preparation" and "instructional activities" pages were written in outline form rather than as all-inclusive notes. For modules without written instructor's notes, ORAU drafted the "instructor preparation" outline and met with the ORNL instructor who presented the training to verify the actual procedure used to prepare the module. This approach was used extensively to ensure that the ORNL-specific modules (e.g., Facility Overview and Site Characterization) described the actual procedure that had been used to prepare them.

The ORAU draft of each module was reviewed and critiqued by the ORNL instructor who prepared and presented the training. All comments and corrections were incorporated into the document. The final document was reviewed and approved by ORNL before publication.

If ORNL used a videotape with a particular module, the instructor activities list provided detailed information on ordering that videotape or recommendations for considering others. When exercises, such as an emergency drill, were used the development team wrote the same components (scope, goals, preparation, and activities) and also included an example of a drill scenario which identified the situation, roles involved and objectives of the exercise. This was followed by a description of the actions that would be expected in response to the situation presented. Thus, the user was provided with performance measures against which to evaluate the implementation of such an exercise at his/her own facility.

Distributing Generic Resources

Volume I of the TRADE Instructional Materials for SARA/OSHA Training (General Site Worker Training) includes approximately 500 pages of overheads and associated materials divided into twelve modules. Volume I has been distributed to 120 staff members in about 60 DOE offices and facilities. Recipients report using Volume I in a variety of ways from strictly following the preparation and activities list to incorporating some of the overheads into existing training programs. Most frequently, Volume I is being used as a guideline for creating facility-specific versions of hazardous site training programs. Again the training-to-

regulation and training-to-worker approaches appear to be valid considerations in each facility's use of the training tools. All recipients contacted noted that they are eagerly anticipating Volumes II (Manager/Supervisor Training) and III (Remedial Action Worker Training), both of which will become available in the Spring of 1989.

REFERENCES

1. "Hazardous Waste Operations and Emergency Response; Interim Final Rule," 29 CFR 1910.120, December 19, 1986, 52 FR 45654.

2. Superfund Amendments and Reauthorization Act of 1986 (SARA), Public Law 99-499, October 17, 1986, 100 Stat. 1613.

3. Comprehensive Environmental Response, Compensation and Liability Act (CERCLA or "Superfund"), Public Law 96-510, December 11, 1980, 94 Stat. 2767.

4. Resource Conservation and Recovery Act of 1976 (RCRA). Public Law 94-580, October 21, 1976, 90 Stat. 2795.

5. Occupational Safety and Health Administration, Environmental Protection Agency, United States Coast Guard, and National Institute for Occupational Safety and Health. Occupational Safety and Health Guidance Manual For Hazardous Waste Site Activities, Department of Health and Human Services (NIOSH) Publication 85-115. October 1985.