ENVIRONMENTAL, HEALTH & SAFETY TRAINING

a primer

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Global Environmental
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(GEMI)

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About the Global Environmental Management Initiative

The Global Environmental Management Initiative (GEMI) is a group of leading companies dedicated to fostering environmental excellence by business worldwide. Through the collaborative efforts of its members, GEMI promotes a worldwide business ethic for environmental management and sustainable development through example and leadership. GEMI's member companies as of March 1995 are:

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Preface

The Global Environmental Management Initiative (GEMI) is committed to the application of Total Quality principles to environmental, health and safety (EH&S) management systems. GEMI advocates the Total Quality Environmental Management (TQEM) approach, which emphasizes continuous improvement of an organization's EH&S management activities. As a leader in TQEM thinking, GEMI provides guidance on, and serves as a forum for, TQEM ideas.

This primer presents techniques for training site personnel on EH&S issues. The primer has been developed as an introductory tool to assist training staff in developing and implementing successful, value–added EH&S training sessions.

Acknowledgments

Table of Contents

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Chapter 1.
INTRODUCTION

*E*nvironmental, Health & Safety Training is an introductory tool designed to assist companies in their training efforts for site Environment, Health & Safety (EH&S) personnel. It is a guidance document for anyone involved in the development of such training.

The intent of this primer is to divide the complex elements of EH&S training into simple, usable approaches that leading companies are successfully applying today. It primarily focuses on what is needed for a successful EH&S training program, including practical "how–to" examples. Several advanced training techniques are also included.

A key premise of this primer is that the training professional has a lot to offer EH&S professionals and site personnel on this subject. Just as it is critical that line management obtain EH&S technical input for major projects, EH&S training programs should include input from training professionals. Such input will help ensure that all training is user friendly and clearly focused on performance objectives.

Application of Total Quality Environmental Management (TQEM)

Value–added EH&S training requires a clear commitment to TQEM principles by site management, skilled trainers and willing and able trainees. While many companies apply some of the elements described in this training primer, few, if any, have put all of these elements together. As a result, improving EH&S training is a major challenge for any company that desires continuous improvement of EH&S performance.

The process for developing an effective training program is similar to the Total Quality action plan process. This continual improvement process can be represented graphically using the PDCA cycle illustrated on the following page. PDCA is an acronym for Plan, Do, Check, and Act.

The P-D-C-A Cycle

ACT
Study the results of the training program. Redesign program to better serve employees' needs. Retrain.

PLAN
- Understand gaps between training and employees' needs.
- Set priorities for closing gaps.
- Develop an action plan to close gaps.

4. ACT

1. PLAN

Customer Satisfaction

3. CHECK

2. DO

CHECK
Observe the effects of the training program.
- Analyze data
- Pinpoint problems

DO
- Implement training program.
- Collect data to determine if gaps are closing.

Step 5. Repeat Step 1, with knowledge accumulated.
Step 6. Repeat Step 2; etc.

This continuous improvement model is valid not only for a company–wide system, but also for the process of improving the competency and knowledge of each individual employee with respect to EH&S management. The following discussion briefly summarizes the PDCA cycle and its applications for an EH&S training program.

❖ PLAN. Understand gaps between employees' training needs and the type and frequency of training available to them. By doing so, trainers are better able to define the "what" and "how" of the training program.

❖ DO. Deliver the training. Schedule participants, prepare the training budget, and project future training needs. Determine the "who" and "where" of the training program and prepare necessary documentation.

❖ CHECK. Perform "follow–up" activities needed to determine the effectiveness of the training. This step ensures continuous improvement in the design and delivery of the training program.

❖ ACT. Using the information obtained in the CHECK step, reevaluate and revise the training program to more effectively and efficiently deliver training to all employees. After this step is completed, begin the process anew, starting with the PLAN step.

Successfully determining and then meeting the EH&S training needs of each employee can appear to be an overwhelming job. Every employer wants employees to do the "right thing"; but first, the "right thing" must be communicated to employees. Using the PDCA cycle as a guide to continuous improvement, trainers can create and implement a successful, value–added EH&S training plan.

Elements of this Primer

The remaining chapters of this primer cover the following topics:

Chapter 2: Employee Training and Performance Technology. This chapter describes the critical linkage between training and improved performance. It presents the key elements of a successful EH&S training program, but avoids the typical approach of relying on thick, complex training manuals that are doomed to failure. It also emphasizes that by keeping a clear focus on business results, training can become a critical element for improving EH&S performance, not just an end unto itself. This chapter also discusses an approach for determining why employees perform the way they do and whether such performance can be enhanced through training.

Chapter 3: Management of EH&S Training. This chapter presents the elements of a leadership approach for managing complex EH&S training needs. It identifies requisite elements of a training program and a systematic process for managing such a program. Implementing a strong approach to training as described in this chapter will help companies meet their training objectives.

Chapter 4: EH&S Awareness for All Site Employees. This chapter describes how to provide EH&S awareness for all site employees. Ensuring that each site employee understands his or her part in meeting the site's EH&S objectives is an important step; it leads to the integration of these values throughout the site.

Chapter 5: Training for Site EH&S Professionals. This chapter describes an effective approach to ensure that site EH&S leaders possess the minimum skills required to perform their jobs. It discusses key principles involved in training these professionals and outlines a process to identify candidates, define specific training needs, verify/qualify the candidate and renew the training. EH&S leaders are often the site's first point of contact for both internal and external issues. Their training should be the minimum requirement for any strong site program.

Chapter 6: Training for Site Personnel on the Floor. This chapter describes an approach to ensure operators and/or technicians have the EH&S knowledge specifically needed for their work areas. Since specific work areas vary widely, such training needs to be integrated with the basic job requirements to be most effective.

Chapter 7: Training Methodologies. Throughout this primer, several different approaches for meeting worker needs are discussed. In each of these cases, the candidate for EH&S training must obtain important information from a trainer. This chapter describes many training techniques ranging from one–on–one to self–training to computer–based training systems. It also provides an evaluation of when each training methodology is most effective.

Chapter 8: Best Practices and Advanced Techniques. This chapter describes advanced training approaches used by GEMI member companies. These approaches include an EH&S Competency Model developed by Digital Equipment Corporation, Just–In–Time Training implemented by WMX Technologies, and Tenneco Environmental Achievement Mission (T.E.A.M.) Test.

Chapter 2.
EMPLOYEE TRAINING AND PERFORMANCE TECHNOLOGY

Employee training is a recurring issue for companies in addressing regulations and company policies on EH&S management issues. Employees are the key to successful EH&S compliance, but they cannot perform in a vacuum. Employees are unable to do their jobs properly unless they are trained in the "what" and "how" of the requirements. Whether training encompasses basic awareness training that is given to a wide variety of employees and to multiple levels or highly technical training geared to a small and specific group, certain techniques and processes will ensure success.

Successful, efficient and cost–effective training can be conducted in more than one way. For some organizations, using interactive computers with CD–ROMs is the best way to reach the needs of the employees; other organizations may use one–on–one configurations or on–the–job training to meet their training needs (see Chapter 7). Whatever the approach, this primer addresses the key issues involved in each training method and identifies other factors that influence the ultimate success of training.

Several factors are critical "musts" (i.e., they must occur) for ensuring the proper development of a training program.

CRITICAL "MUSTS"

❖ Obtain Management Commitment

❖ Secure Adequate Funds

❖ Allocate Sufficient Development Time

❖ Allocate Sufficient Training Time

Obtaining management commitment is the critical first step in developing a successful training program. Commitment from management will ensure that the training will have impact throughout the organization.

Part of obtaining management support is to ensure that adequate funds are allocated to develop the training. The availability of funds for the purchase of material to increase the transfer of learning (e.g., for training videos, participant workbooks, and other equipment) bears heavily on the results of the program.

Allocating a reasonable amount of time to develop and implement the training program is also necessary. Training programs require substantial time commitments and should never interfere with the participants' jobs.

Key Success Factors in Training Programs

Whether developing an environmental awareness training program for newly hired employees, purchasing a training package from an outside vendor, or looking at several external providers of training on a specific regulation, a company should carefully consider three factors that determine a successful training program. EH&S training must be designed for a particular audience, establish clear objectives and be tailored to company culture.

KEY SUCCESS FACTORS
1. Design for Audience
2. Establish Clear Objectives
3. Tailor to Culture

1. Design for Audience

Who will receive the training? What do they need to know to do their specific jobs? In general, the audience should be as homogeneous a group as possible because determining these needs for each group is a key issue. For example, although all site personnel may need training in cleaning up oil spills, they do not all need the same training. Supervisors and managers need to know how the cleanup

program operates; the program coordinator needs to know the exact details of the cleanup plan; and other employees need to know how their specific jobs will be affected and what they must do to comply with the cleanup plan. Identifying the needs of different audiences allows the trainer to structure the training accordingly.

A training program should also be tailored to the audience's background and skills. If the participants are similar to each other in education, job assignments, position levels, and experience, the trainer can more easily develop training that specifically meets the needs of the participants.

If their needs, experience and backgrounds are diverse, multiple sessions can be used to create homogeneous groupings. If the participants' needs and skills vary considerably, some of the participants will lose interest because the information does not apply to them or because it falls above or below their level of understanding.

The exception to the rule of homogeneous group training arises when a general EH&S awareness session is required or desired. General awareness sessions provide the same level of information –– usually basic/introductory level material –– to all employees (see Chapter 4).

2. Establish Clear Objectives

To ensure that the training program will have measurable results, objectives must be established prior to the start of the training. The objectives should answer the following question: What should the participants be able to do at the end of the training? By carefully considering the objectives of the training and getting input from others, the trainer will be better able to develop the training program. Articulating the objectives informs the participants of what should be gained from the training and which concepts are important.

Two common mistakes can sometimes derail your objectives. The first mistake occurs when the objectives are directed at what the instructor will do, not what the participants should learn. For example, "Review 33 CFR 154.1050" is an action performed by the instructor. But his or her review in no way helps the participant respond appropriately to oil spills. A better objective would be:

"The participant will state in chronological order the six steps he or she will take in the event of an oil spill."

The second mistake, and the one that arises most often, occurs when the objectives are too vague or general. Suppose, for example, that the objective is to "understand the differences between federal and state regulations regarding pesticide applicator requirements." On the surface, this objective may appear acceptable, but what is meant by "understand?"

Stating the objective in terms of how the participant's behavior is affected:

❖ gives the trainers a firm understanding of the concepts they are to address;

❖ informs the students of what they should be able to do at the end of the training;

❖ informs management of what the students will learn (and the limits to such learning); and

❖ assists in the evaluation of the program.

3. Tailor to Culture

The prevailing way things get done in an organization has a direct impact on which training methodologies are appropriate. Some organizations conduct all their training on a computer terminal. For others, an instructor–led program is the typical approach. Either method can be successful, but using a new or different method can affect the outcome, and that change must be considered. Thus, corporate culture must be considered in the design of the training program.

Just as companies have different cultures, so may different departments within the same company. The research and development department could have a totally different culture from the marketing or field services sections. Ensuring that the method used is right for each audience includes this often neglected area of concern.

Multinational companies should also identify the culture of the country where the training will be conducted. It is presumptuous to use the same training material in different countries unless you have determined the effectiveness of that approach in the other country.

Performance Technology

Although employee training is an answer to effective regulatory compliance, it is not always the answer. Sometimes, something other than an employee's knowledge or skill is preventing the implementation of a compliance strategy or policy. In such cases, Performance Technology (PT) should be used to determine employees' needs. PT provides the big picture of why people do, or do not, perform as they are expected to. This approach helps to identify and resolve actual problems rather than treat symptoms.

The PT approach recognizes that successful EH&S training is linked to performance. It involves the following key steps:

PERFORMANCE TECHNOLOGY
1. Determine Causes of Unacceptable Behavior
2. Select and Implement Interventions
3. Review Results

Rather than assume that training or re–training is the only way to improve poor performance, PT considers many possible solutions, and chooses the solution based on the actual cause of the poor performance. Possible solutions include helping the employee know when to take action and what to do, providing appropriate feedback to the employee when the action is accomplished, and using motivational systems to continue the action over time.

1. Determine Causes of Unacceptable Behavior

Once unacceptable behavior has been identified, a key issue in performance technology is the determination of the cause of the poor performance.

The following typical questions can be asked of management to determine the causes of poor performance. The list of questions is by no means exhaustive; it, however, illustrates the types of issues that should be considered in a PT analysis.

Actions Prior to Performance

- ❖ How does the employee know to perform the task?

- ❖ Does the employee know when to perform the action?

- ❖ Does the employee have the resources necessary to do the job?

Performance Standards

- ❖ Does the employee know the level of performance required?

- ❖ Under present conditions, is the requested performance realistic?

Feedback

- ❖ What type of feedback does the employee receive?

- ❖ What is the frequency, accuracy, and timeliness of the feedback?

Consequences

- ❖ Do the actual consequences support the performance desired?

- ❖ Are the consequences immediate, positive, and certain?

Knowledge and Skills

- ❖ Does the employee know what needs to be done and how to do it?

- ❖ Does the employee know why the required performance is necessary?

- ❖ Is the employee physically, mentally, and emotionally able to perform the job?

If questions related to knowledge and skills elicit negative responses, training may be appropriate and advisable. If the answer to the same questions is positive, then training is probably not the answer, and additional training is unlikely to yield better results.

2. Select and Implement Interventions

Once the causes of the deficient behavior have been identified, the trainer can initiate appropriate action to fill the gap between the actual and desired performance. Because the causes of inadequate performance vary, the possible interventions can also vary.

Non–Training Interventions

Possible interventions not related to training include work process changes, organizational and cultural design changes, and strategic realignment of the tasks to the goals and objectives of the organization. Other non–training interventions include personnel selection, motivation and feedback systems, incentives, technologies, and performance aids.

Training Interventions

Possible training interventions are not limited to classroom training models. They can include small group activities, video–based instruction, paper–based self instruction, structured on–the–job training, and distance education (see Chapter 7).

3. Review Results

By looking at everything involved in ensuring compliance, you get a better feel for what it takes to accomplish the task. Performance technology takes this "systems approach" to training — looking before, during, and after the actual training session. Providing solid training and appropriate performance feedback will increase a company's compliance success and improve its overall environmental program.

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Chapter 3.
MANAGEMENT OF EH&S TRAINING

Managing EH&S training can be frustrating. It costs time and money, and its results are often delayed and intangible. Providers of training often seem unaccountable for the timeliness and effectiveness of their service. This chapter provides guidance on how to organize EH&S training efforts to ensure that the right training is delivered to the right people at the right time. A system to ensure that EH&S training is successful is similar to any other administrative system. It is appropriate to apply the concepts of continuous improvement, using the PDCA cycle described in Chapter 1.

EH&S Training and Other Training

EH&S training should be managed like other training. If a company has a systematic approach to the management of training, the EH&S program will fit in very well. EH&S training requirements are complex; therefore, a systematic approach is essential to manage this type of training successfully. The complexity of the requirements also calls for the involvement of EH&S professionals in every phase of training program development and implementation.

The Process

To properly manage EH&S training and ensure that it meets the needs of the site, objectives must be set for the program. With established objectives, the training program will be more effective and manageable.

After objectives are set, use a "brainstorming" session to identify the specifics of the training needed at your particular site. Based on this information and a content outline, the final product will begin to take shape. The scope of the training can be finalized by ranking the key issues and making necessary modifications to ensure that training time, format and budget are acceptable.

The next step in this process is to determine the most effective method for delivering the training. Items such as availability and accessibility of classroom facilities and audiovisual and computer

equipment must be considered. Finally, training deliverables and schedules must be established, and individuals responsible for the EH&S training must be trained.

Requirements for an Effectively Managed EH&S Training System

The essential elements of a well–structured, systematic EH&S training program are outlined in the following chart that can be used to help guide the process.

| Essential Element	Where to Get It
Information and Training	
Clear criteria to determine who needs the training and when. This element should be updated as requirements change.	• Federal and State Regulatory Agencies • Industry Groups
Clear criteria for determining an acceptable departmental program to manage EH&S training.	• EH&S Staff • Training Department • See Example in Appendix A
Assistance in customizing material to meet local needs.	• EH&S Staff • Training Department • Local Staff
Instruction to help supervisors establish and enhance their programs.	• EH&S Staff
Timely updates to personnel on the changing requirements for EH&S training.	• EH&S Staff
Job Aids	
Training matrices associating individuals with required courses and refresher dates.	• EH&S Staff • Data Base Software • See Example in Appendix B
Lists of available approved training courses, materials, experiences.	• EH&S Staff • Training Staff • Training Vendors
Documentation	
Procedures for managing the day–to–day activities of EH&S training.	• EH&S Staff • Training Staff • See Example in Appendix C
Guidelines on setting up and operating an EH&S training program, including the supporting resources.	• EH&S Staff • Training Staff

Essential Element	Where to Get It
Documentation (cont.)	
Accessible, consistent documentation system (e.g., procedures, attendance, and content).	• Document Control • Training Staff • EH&S Staff
Workplace Design	
Convenient computerized system that supports needs assessment, development of individual training plans, courses completed, required refresher dates for each individual in the company.	• Company Information Systems Department • Human Resources • Software Vendors
Feedback	
An assessment program to verify and communicate adherence to the criteria for management of an acceptable EH&S training program.	• EH&S Staff
Consequences	
Accountability for assuring that employees get the right training at the right time, with follow– up, feedback, and rewards.	• Management and Supervision

This chart is a complex matter, with several individuals within an organization playing interdependent roles. This high–level list will help ensure that all the elements of a successful training program are being addressed.

Stumbling Blocks to a Well–Managed Program

The task is not yet complete, however. Not even when the EH&S training program has been implemented and appears to be working well. EH&S regulations are dynamic. As a result, the training program must be reviewed and updated periodically to account for regulatory and site policy changes.

Maintaining a systematic management process will ensure success-ful and timely training. Managing EH&S training is as complex and difficult as delivering the training. Emphasis on management and planning will make for a stronger training program, and as a result, a better trained workforce.

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Chapter 4.
ENVIRONMENTAL AWARENESS FOR ALL SITE EMPLOYEES

EH&S awareness is a valuable component of a site's comprehensive EH&S training program. Although health and safety awareness training has been implemented for years in facilities worldwide, environmental awareness training is a more recent concept. Promoting EH&S awareness of all employees encourages overall behavior change and performance improvement. This chapter introduces the concept of awareness sessions and describes different methods and techniques used to develop this type of training program.

EH&S Awareness

As used in this primer, an EH&S awareness program is one that creates a general employee awareness of the key EH&S issues at a site. These issues may include federal, state, and local regulations and company policies that affect the site's EH&S program. Awareness training can include the fundamentals of pollution prevention, injury and illness prevention, waste management practices, and on–the–job as well as off–the–job safety. Awareness sessions are not intended to make each site employee a technical expert, but rather to boost EH&S awareness and ownership by each employee. This type of program ensures that all site employees are given the same message regarding key EH&S issues regardless of job description, experience, or educational level.

The following common activities should be considered when conducting awareness sessions:

❖ tie the program to other company goals and objectives;

❖ show how it is important to the company and to the individual;

❖ inform employees of what to do to do the right thing;

❖ design sessions to be less specific and have a broad scope; and

❖ use the session as a communication tool, not as a way to address the details of regulatory requirements.

The planning of EH&S awareness training should also include a determination of its frequency and how effectiveness will be measured. Although there is no obligation to conduct or document such training, maintaining awareness training records may be useful in discussions with regulatory authorities.

Management Support

Obtaining management support is the first step in developing awareness sessions. One method of gaining this support is to tie the material directly to the company's goals and objectives. Without management support, the training will have little impact.

Part of obtaining management support is to ensure that adequate funds are allocated to develop the program. Depending on the site's or department's budgeting process, funds for environmental awareness may need to be requested well in advance of the anticipated project start date.

Team Approach

The success of an EH&S awareness session depends entirely on planning and preparation. A good way to accomplish this task is to assemble a team rather than rely on one person to make all the decisions.

Ideally the team will consist of a cross–functional group of individuals employed at the site. For example, members can be drawn from management, the EH&S team, the training staff, and operations. Since EH&S awareness sessions are not job specific, involving different departments ensures that a wide variety of perspectives will be included in the program.

Chapter 5.
TRAINING FOR SITE EH&S PROFESSIONALS

A major component in every site's EH&S program is the professional or leader responsible for assuring continuous improvement of site results and interfacing with external personnel. These individuals may have varied backgrounds ranging from a college degree with advanced specialist capability (e.g., industrial hygienist) to a high school degree with some on–the–job experience. Their formal responsibilities can also vary widely depending on the size and complexity of their site.

This chapter describes significant elements of a leadership approach to EH&S training, including its fundamental principles and the training and certification process.

Training Principles

Consistent with the performance technology philosophy discussed in Chapter 2, the leadership approach involves four key principles for ensuring the effective training of site EH&S professionals. These principles are:

TRAINING PRINCIPLES
1. Train EH&S Leaders at the Site
2. Make Training Site–Specific
3. Make Training Contract–Based
4. Recognize Successful Training

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1. Train EH&S Leaders at the Site

Each site should have a minimum level of professional and leadership skills in these technologies. This principle involves a clearly designated role assigned to one or more people at each site.

2. Make Training Site–Specific

This principle recognizes that each site has different EH&S needs. EH&S professionals should have the minimum EH&S skills needed to support their particular sites.

3. Make Training Contract–Based

Site EH&S professional training contracts ensure the site manager's support for this effort. This principle acknowledges that the site manager's commitment is a critical element to ensure the resources needed to complete the training program successfully are available.

4. Recognize Successful Training

This principle demonstrates the need to acknowledge clearly the roles of EH&S professionals and to recognize the individuals who achieve the EH&S skills needed to support their sites. Such recognition sends a message to site personnel about the importance of this work and capability of the people assigned to it.

Training and Certification Process

A major element of the leadership approach for site EH&S professionals is the training and certification process. A critical aspect of this process involves setting clear objectives for the training and then assuring that these objectives are met consistent with site management expectations.

TRAINING AND CERTIFICATION PROCESS
1. Identify a Suitable Candidate
2. Identify Specific Training Objectives
3. Contract with Site Management
4. Execute Training Tasks
5. Formally Qualify/Certify
6. Re–Certify

The major steps of this process are as follows:

1. Identify a Suitable Candidate

This first step is critical since the interests and background skills of potential candidates can greatly affect the success of a site's EH&S program. The candidate must not be merely a "regulator or cop"; he or she must also empower and train others in the field.

2. Identify Specific Training Objectives

This step is needed to ensure that training objectives are tailored to site–specific issues and completed in a manner that minimizes leadership gaps. That is, the training tasks for a site with significant EH&S issues or concerns are likely to be much more difficult than those for a site with low EH&S complexity.

Developing this list of specific training tasks can be difficult. Various aspects of the leadership role need to be considered so that even minimum job skills will be properly identified. Some broad training areas can be addressed:

- ❖ Understanding company policy and standards

- ❖ Understanding regulatory requirements

- ❖ Performance auditing/evaluation

- ❖ EH&S function–specific technologies

- ❖ Incident prevention and mitigation

- ❖ Community and Agency relations

3. Contract with Site Management

This step ensures management commitment and support for the training effort. Without such support, training can be delayed and the credibility of the site's EH&S program called into question.
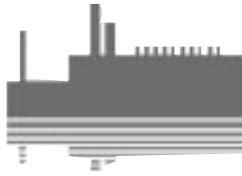
4. Execute Training Tasks

This step, the most time–consuming step in the process, can take anywhere from three to 18 months, depending on the difficulty of the training objectives. The methodologies used to deliver this training can also vary widely (see Chapter 7).

5. Formally Qualify/Certify

Following the completion of the training tasks, staff specialists should conduct a certification test to verify that candidates have mastered the required technical learnings. The site manager should then formally qualify the candidate's aptitude for an EH&S leadership role for the site. These formal steps –– certification and qualification –– are included in this process as a method to ensure that the candidate will achieve minimum technical and leadership capabilities. Upon completion of this step, successful EH&S leaders should receive clear recognition of their accomplishments (e.g., a plaque, acknowledgment letter, or press announcement).

6. Re–Certify

Finally, each site EH&S professional should routinely renew his or her certification/qualification with staff and the site manager. This final continuous improvement step acknowledges the need to ensure that EH&S leaders keep up with emerging issues and technologies. This step can be accomplished during the routine evaluation of site EH&S performance.

Chapter 6.
TRAINING FOR SITE PERSONNEL ON THE FLOOR

Communicating EH&S regulations and concepts to site personnel on the floor equips them to perform their jobs in a manner consistent with EH&S management objectives. Since EH&S requirements can change on a daily basis, employees will not instinctively know how to keep the site in compliance. Effective methods for communicating EH&S issues are to incorporate them into job–specific training, or to provide specific EH&S training that is work related.

Once again, management support and commitment is key to the successful training of site personnel on the floor. In addition, the training must be linked to the organization's overall business objectives and goals –– for example, to its strategic plans and quality management process.

Key Steps

A systematic approach to EH&S training includes several important steps for achieving success:

KEY STEPS
1. Analyze Need for Training
2. Design Training
3. Develop Training
4. Implement/Deliver Training
5. Evaluate Training

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1. Analyze Need for Training

The need for training of site personnel on the floor can come from numerous sources, including, but not limited to, the following:

❖ Job/task requirements

❖ Regulatory changes

◆ Root cause determinations

◆ Assessment/audit findings

Job/Task Requirements

Job/task requirements are the first consideration.

◆ What work does the employee perform?

◆ What does the employee need to know or do in terms of EH&S?

◆ What training is necessary to do the job/task in compliance with EH&S requirements, regulations, and company policy?

A training matrix can help organize job/task analyses. The matrix is a tool that describes the necessary training in a methodical process. The following matrix is one illustration of how training of site personnel on the floor can be organized.

**Training Matrix for
90/180 Day Storage Area Workers, Supervisors and Inspectors**

Training Title/Description	Course #	Initial Training	Refresher Training
Introduction to Hazardous Waste Regs	100 (i)	Within 6 months of job assignment	NA
90/180 Day Storage Area Management	102 (i) 113 (r)	Within 6 months of job assignment	Every 365 days
Note: (i) initial training; (r) refresher training			

Additional information, such as length and type of training and designations for required versus best practices, is also appropriate for the matrix. Training staff and EH&S staff should collaborate when creating a training matrix for personnel on the floor.

Regulatory Changes

EH&S regulations are subject to change on a daily basis; therefore, a process for identifying additional and emerging EH&S training requirements is advisable. Such a process will ensure that the training program anticipates regulatory changes or new regulations.

Root Cause Determinations

In the event of a spill, accident or non–compliance incident, lack of training is usually identified as a root cause. If this occurs, training staff should work with relevant site personnel to determine whether lack of training was indeed a contributing factor to the event. Verification is important; studies have shown that, in most cases, a lack of skill or knowledge was not the root cause. If skills and knowledge are lacking, then a need for training is indicated (see the discussion on performance technology in Chapter 2).

Assessments/Audit Findings

Assessments and audits, whether internal or external, may also point to training as a weakness or area of concern. The training staff should work with the assessment/audit team to verify a lack of skill and/or knowledge prior to delivering additional training.

2. Design Training

After information is collected during the needs analysis, training design can begin. During this phase, items such as performance measures, training setting/format, prerequisites, learning objectives, and test items are determined.

3. Develop Training

Training development involves the creation and organization of instructional materials. During this phase, learning activities are specified, materials are developed and training methodologies are formulated.

4. Implement/Deliver Training

Training implementation/delivery encompasses the actual presentation and documentation of the training. With EH&S training, documentation is very important –– if you cannot prove training occurred, then for all practical purposes, it did not.

5. Evaluate Training

The evaluation of training ensures continuous improvement of the training process. Feedback/training evaluations can come from a variety of sources such as evaluation of test results, trainee course evaluations, on–the–job performance reviews, instructional review of materials, and post–training evaluations.

Following this systematic approach will help to ensure that training is effective and adds value to the performance of each employee.

Chapter 7.
TRAINING METHODOLOGIES

Methods for delivering training are limited only by creativity. New approaches are evolving constantly based on technology advances. The best training often combines a variety of media in the same session. Some methods may be more appropriate than others, but as long as the program objectives are being met, no approach is considered right or wrong. This chapter describes various methods.

Available Training Methodologies

Live Instructor at a Central Location. This approach involves a typical teacher–classroom scenario in which a group of students is isolated in a "schoolroom" to avoid the interruptions and distractions of daily business.

Live Instructor at Worksite. The worksite method is a modification of the central location approach. In this case, the teacher comes to the worksite. This approach could also consist of one–on–one tutoring.

Videotape. Video is a valuable technique, especially for the delivery of uniform messages. Videotape, however, should be presented by a knowledgeable person to track attendance, administer a quiz, and answer any questions that help make the message relevant to a particular audience.

Computer–Based Training. Even fairly low–powered computers can be used to deliver uniform textual information and simple pictures or to perform repetitive drills. Computers can deliver training to a large number of people on a flexible schedule and track the trainees' success without an instructor present.

Interactive Video. Sophisticated automated training links a personal computer to a video disc player. This method incorporates high quality sound and pictures with the benefits of computer–based training. Advances in technology are putting this method on compact discs (CD–ROM and Photo CD ®).

Self–Paced Paper Modules. Workbooks have been available for a long time. Often, they incorporate the same information as com-

puter–based training, but they cost much less to produce and deliver to small groups. They do not lend themselves to drill and practice.

Broadcast Video. This approach is similar to educational television.
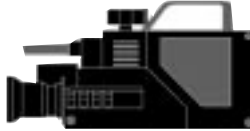
Interactive Broadcast Video. This approach is an educational broadcast of EH&S training that also allows the viewers to ask questions of the instructor.

Distance Learning. This term is used to describe a special class of broadcast delivery or computer–based training. It uses a modem to access a remote computer that holds the educational programming.

Key Considerations for Determining a Methodology

Regardless of the training medium, a number of issues should be considered.

Module Versus Comprehensive Training Formats. Modular designs may be ideal for training programs that require training to occur in relatively short sessions (i.e., 45 minutes to one hour). Each module is designed as a "stand alone" program. For example, the total number of modules comprising an EH&S awareness program may be 13 modules, with each session designed to be conducted in 45 minutes. Specific topics (e.g., hazardous waste, transportation, chemicals, occupational health) can be covered in separate sessions, or combined as time allows. If review of a particular subject is needed, the module can be easily repeated.

Comprehensive training formats may be more appropriate for sites that implement their training sessions in larger blocks of time (e.g., one day or more) when time constraints are not as much of an issue.

Participative Approach. With the nonspecific nature of awareness sessions, and the complex regulatory programs behind the issues covered, it is likely that employees will have a number of questions. One suggestion is to conduct the sessions in a classroom format

where a "leader" facilitates the session, promoting interaction among the employees. Including in the training materials a series of questions to be addressed by the employees will also encourage participation and understanding.

Use of "Real Life" Examples. Incorporating "real life" examples into the EH&S training program helps site employees understand how daily site activities are affected by key EH&S issues. This method is particularly helpful in training EH&S professionals.

Group Exercise. Consider including group activities in the training sessions. For example, if air pollution is the key issue being covered, schedule a group site tour, pointing out the site's air emission sources and controls.

The following page presents a comparison of training delivery media. The table compares training delivery media in general terms to help you recognize the strengths and weaknesses of each.

Comparison of Training Media

	Live Instructor at Central Location	Live Instructor at Worksite	Stand Alone Video Tape	Computer-Based Training	Interactive Video Disc	Self-Paced Paper Modules	Stand Alone Broadcast Video	Interactive Broadcast Video
Development Cost	1(a)	1	1-3 (b)	2-3 (b)	2-3 (b)	1 (c)	1-2 (b)	1
Delivery Cost	3	2-3 (d)	1	1	1-2 (e)	1-2 (e)	1	1-2
Documentation of Content	1-3 (a)	1-3 (a)	1 (f)	1 (g)	1 (g)	1 (h)	1	3
Consistency of Content	2	2-3	1	1	1	1 (h)	1	3
Quality/Convenience of Attendance Records	2	3	3	2 (g)	2 (g)	1 (h)	3	3
Specificity of Job	1-3 (j)	1 (j)	3	2	2	1-2 (c)	3	1-3 (j)
Documentation of Learning	1-3 (k)	1-3 (k)	3 (k)	1-2 (g)	1-2 (g)	1 (h)	3 (k)	3 (k)
Convenient Reference Material	1-3 (a)	1-3 (a)	2-3 (m)	1-3 (n)	1-3 (n)	1 (h)	3 (m)	3
Adaptability to Changing Student Schedules	3	1-3 (n)	1-2 (n)	1	1-2 (n)	1	2 (n)	3 (n)

Key: 1 = Best   2 = In Between   3 = Worst

Explanatory Notes

(a) Development cost of live instructional sessions is usually less expensive than other delivery methods because it relies heavily on the expertise of knowledgeable instructors. Developing better visuals, records, course documentation and reference materials increases the costs, but overcomes some typical weaknesses of this medium.

(b) Development cost for videotape can be very high or low per trainee depending on whether you can obtain existing materials to meet your training objectives or whether you must pay to create your own. Creating your own can be justified if you need to deliver a unique message to a large audience. Most vendors customize existing videos for a reasonable fee.

(c) A curriculum of self–paced paper modules is fairly inexpensive to create compared to other media.

(d) The expense of a live instructor from outside the workplace may be offset by the savings in the cost of transporting the workers.

(e) The delivery time for self–paced methods can be longer than for videos or other one–way delivery methods, but the trade off is that this method is more effective.

(f) The video tape is an indisputable record of content.

(g) The video disc or computer program is also an indisputable record of content. This is a great strength of this medium, along with the intrinsically reliable attendance record, and record of learning normally held in the form of test results in these systems.

(h) Sign–off paper modules in which the supervisor and the individual employee indicate demonstrated knowledge are unquestionably the best documentation of content and learning. They also comprise good reference material when maintained in the possession of the student. The inconvenience is that the data is not accessible from a centralized location if the paper modules are the sole record of participation in the course.

(j) Nothing can beat a live, knowledgeable person for identifying and responding to specific student needs. This ability is enhanced when all the students in a class are from the same organization or job, and face the same challenges, so that the questions and answers are pertinent to all.

(k) The quality of tests, whether they are administered properly or used at all varies a great deal with the typical applications of the media. The best assessment of learning is the observation of behavior on the job to see what is being applied.

(m) Many commercial videos can be obtained with supporting reference material for the instructor and student.

(n) Accessibility is the key here. It depends on arrangements for the instructor and the availability of the computer terminal.

Chapter 8.
BEST PRACTICES AND ADVANCED TECHNIQUES

This chapter describes the best practices and advanced techniques applied by some GEMI member companies in training site EH&S professionals. The companies and models involved include the following:

❖ T**he EH&S Competency Model Developed by Digital Equipment Corporation;**

❖ **Just–In–Time Training Implemented by WMX Technologies; and**

❖ **The Tenneco Environmental Achievement Mission (T.E.A.M.) Test.**

Each section was written by a company representative who was directly involved in the training program.

The EH&S Competency Model Developed by Digital Equipment Corporation

What makes an excellent EH&S professional and how would you recognize one? You have a better chance of answering that question if you can identify the skills and behaviors that are necessary to excel at the job.

Competencies are defined not as aspects of a given job, but as special characteristics or behaviors of the people who do the best job. So, to find out what it takes to be a good EH&S professional, we need to talk to EH&S workers.

Digital Equipment Corporation began by identifying site EH&S managers to help determine what EH&S management encompasses. These managers identified their top performers in various disciplines, such as industrial hygiene, safety, and environmental. Then, we interviewed each of these people to identify the competencies they used when solving problems.

Next, we identified a list of competencies and developed a survey form. Then, the EH&S professional collected feedback informa-

tion from his or her manager, peers and customers and performed a self–evaluation. The information we gained helps focus the kind of training that the employee and organization needs to excel. The EH&S professional now has a systematic way to identify his or her development needs.

Competency Requirements

Some people are more effective in their jobs than others. They get better and more consistent results; they are more successful in adapting to new situations, challenges, and change. Some of this difference is due to experience; some, to general intelligence. But much of the difference is explained by other performance factors, which we call competencies.

Competencies are personal characteristics that research shows to be related to high performance. They can be motives, traits, aptitudes, skills or knowledge. Each competency is operationally defined by observable behaviors that high performers exhibit on the job.

Competencies describe the person not the job. They can predict job success and because they are observable in current and past behaviors, they can be assessed. Because the best predictor of future behavior is past behavior, competencies are excellent assessment criteria for developing EH&S professionals.

A competency model will help EH&S staff:

❖ determine the skills, knowledge and behaviors necessary to function as an EH&S professional;

❖ identify the development needs according to current and future job responsibilities; and

❖ prepare individual EH&S and organizational development plan.

The following examples of competencies are used in EH&S assessment at Digital. Each company should identify its own competency needs. Note that each competency has a definition and several observable behavioral indicators, of which only a few are presented here.

Customer/Business Focus

Definition: Ability to understand and become engaged in the key needs of the business unit; integrate EH&S strategies directly with the goals and success of the business.

Behavioral indicators:

❖ articulates cost–benefit impact of EH&S compliance on business; compares and contrasts costs and benefits associated with compliance, as opposed to noncompliance.

❖ advises customer about the business impact of compliance to regulations.

Analysis

Definition: The ability to break down a problem, situation or process into its component parts, understand the nature of those parts and their relationship to one another.

Behavioral indicators:

❖ identifies characteristics of potential hazards; looks for anomalies in seemingly safe or nonhazardous areas (e.g., water on floor, excessive clutter, recent change in pH of water).

❖ examines a business process from beginning to end to determine areas of high risk.

Information Gathering

Definition: The ability to gather facts, ideas and opinions needed for analyzing situations, solving problems or making decisions.

Behavioral indicators:

❖ obtains information needed to clarify, diagnose, or resolve a potential EH&S risk or problem.

❖ maintains sources of EH&S regulations, company policies and procedures for resolving gaps in personal or group knowledge.

This competency model has proven to be very successful for Digital Equipment Corporation.

Just–In–Time Training Implemented by WMX Technologies

This section discusses how a program can provide relevant and up–to–date environmental information that can serve as just–in–time training for site and front–line employees. This section describes WMX's training program in relation to the company's overall approach to environmental compliance and shows how the company's key compliance tools support training and are being enhanced to improve communication and environmental performance in 1995.

WMX Compliance Approach

WMX has placed responsibility for maintaining compliance in the hands of facility management as opposed to relying solely on environmental professionals. Environmental professionals support facility management, but day–to–day responsibilities are assigned to staff that report to facility management. Generally, a lead operations management person is assigned the role of Division Compliance Coordinator. In addition, senior management has emphasized that everyone is responsible for ensuring compliance.

WMX develops and makes tools available to facility managers to help them understand, anticipate, and plan to meet environmental requirements. These programs are the foundation of the WMX approach. WMX's approach to compliance consists of Preventing compliance issues from arising, Assessing the compliance status of operations, Correcting deficiencies identified, and Training personnel to improve their performance. WMX believes that this "PACT" cycle embraces continuous improvement principles by resolving concerns identified through assessment and by incorporating new training and prevention measures into operations to achieve a higher level of performance.

Existing Training Approach

WMX companies provide extensive training to employees on compliance–related subjects. WMX has developed a "compliance curriculum" for training facility personnel in the requirements of various regulatory programs and on the steps they need to take to comply. Training includes instruction on the use of internally developed compliance tools that help facility employees complete activities associated with environmental requirements or resolve

environmental issues in an appropriate and timely manner. Courses also have been developed to help build a company culture of environmental compliance and regulatory awareness.

Regulatory training is provided at two levels. Details for complying with the regulatory programs generally are provided to those facility employees who are primarily responsible for compliance oversight (e.g., division compliance coordinators) as well as other facility personnel (e.g., facility managers and operations managers). During training sessions, they receive information that can be used to train all front–line facility employees. This second level of training outlines what facility personnel must routinely do to remain in compliance.

Certification programs that require minimum levels of training for division compliance coordinators have been established across the company. Division compliance coordinators are certified when they have completed certain required courses and demonstrated an understanding of the material by scoring high on course tests. A level II certification has also been established for taking additional courses beyond the first level. Management recognizes this achievement with a certificate and financial bonus.

Prevention Program

The major preventive program widely used throughout WMX and its subsidiaries is the Compliance Management System (CMS), which is a PC based software program developed in 1990 to assist facilities in scheduling and documenting the completion of environmental obligations. this system is key to facility training and activity scheduling. Many commercial electronic services provide environmental regulations, but none translate them into tasks that are completed by facility employees in order to assure compliance by relevant due dates. WMX developed CMS to define tasks to meet requirements, schedule them, assign them to facility staff and track completion of tasks. These same tasks can be used in conjunction with the training program mentioned above to train new and existing staff.

Implementation of CMS and facility-specific environmental management systems supports the WMX philosophy that everyone is responsible for compliance. Tasks can be assigned to any employee, rather than relying solely on environmental professionals.

Challenges

Use of the CMS system has been very effective in improving compliance; however, keeping the system up-to-date and making sure all the information (tasks) in it was easy to understand were two challenges for CMS. these challenges were also relevant to training.

The requirements that facility personnel must comply with are continually changing. Employees must be trained in new or revised regulations and procedures before their effective date, but the limited time available makes it difficult to develop a full scope of training materials. Alternative training mechanisms are frequently employed to communicate only the new requirements, but often these mechanisms do not clearly explain the actions that must be taken to attain compliance or the broader scope, meaning, and intent of the requirements.

Regulations are legal documents, not user-friendly sets of instructions. They require interpretation as to their meaning and translation into actions that can be taken by facility personnel. Differences of opinion can develop over the interpretation of requirements. There may be differences between federal and state requirements. Determining which have primacy is complicated by the variation in federal delegation between states and between programs under different statutes. Having training programs clearly explain the actions that must be taken to attain compliance may be difficult. This often occurs where it is difficult for trainers to address state specific requirements when they are developing materials for facilities that operate in several states. A gap between what is required and an understanding of what specific action must be taken by an employee can be a common outcome.

Solution

Recently, CMS was modified to help address these challenges. CMS updating occurs centrally and tasks are entered based on whether federal or state requirements are controlling to provide a integrated set of tasks for each state in which WMX operates facilities. Tasks in CMS are written using a technique called Information Mapping®.

Information Mapping® is a systematic approach that efficiently analyzes, organizes and presents large amounts of information for use by facility personnel. The "mapping" technique is based on research into cognitive learning, and focuses on communication

information so that readers can find, understand, and use it without additional support. It should be noted that Information Mapping® techniques are also used by training material developers when designing full scale training programs to assist them with analyzing the audience and information, organizing the information, and visual presentation.

CMS is useful in training employees about existing and new environmental requirements. Current applicable requirements will be continually available to Division Compliance Coordinators in CMS, thereby providing an on-demand training resource. Using the Information Mapping® techniques for placing information into CMS makes the regulatory information much easier to understand and use. Employees will have current information that is relevant to their job. The concept can be considered "just-in-time" training, a form of long distance education.

Use of CMS as a training tool will be expanded to build upon or enhance existing training programs. CMS tasks will be used during training sessions (sessions for DCCs and front line employees) to address state specific requirements where they are lacking in the training materials and to provide specifics to clarify what actions are required at the facility. Clear and specific information bridges the gap between regulatory language and job the actions required to be in compliance. Finally, the CMS system allows training to become a continual process rather than an event based program minimizing the need to send out additional information to the facilities.

Plans are underway to fully implement this approach within Waste Management, Inc., WMX's largest subsidiary, in 1995.

The Tenneco Environmental Achievement Mission (T.E.A.M.) Test

The Tenneco Environmental Achievement Mission (T.E.A.M.) Test is a computer–based educational and testing mechanism used to accelerate environmental achievement throughout the company. It is a communication tool to share information about progressive environmental practices and expectations.

Development and Description

The Tenneco Environmental Achievement Mission is a movement within Tenneco Gas to ensure that the environment receives equal consideration in the pursuit of business goals. The T.E.A.M. Test elevates overall environmental achievement because it achieves companywide awareness of the environment and environmental expectations. It is a knowledge event that all employees participate in.

Goals and Objectives

This first edition of the T.E.A.M. Test is focused on elevating awareness; it was the first communication effort of substantial depth to reach all segments of our 3,200 employees. Due to the geographic and skill diversity of our company, some people will be learning about industrial environmental practices at the same time others are being introduced to good office practices. All informational modules are available to all employees. The overall goals of the T.E.A.M. Test are to

❖ elevate general knowledge as preparation for acceleration of environmental practices;

❖ cross–fertilize widely dispersed locations with ideas for good environmental activities;

❖ provide a message that can be transported to other audiences (e.g., communities, schools, homes, industry peers, local oversight groups);

❖ cover key areas that we impact, either as a unit or as individuals away from the job; and

❖ encourage the generation of additional ideas for activities, training, and information exchange.

The T.E.A.M. Test was implemented at Tenneco Gas and its subsidiaries on January 1, 1994, and employee testing began on July 1, 1994. The Test came at the time when Local Area Network technology was being implemented systemwide, thereby providing the paper–free communication path that we desired for this program. From the start, the program has introduced environmentally friendly communications pathways to help carry the message that we are dedicated to exploring every avenue on our environmental journey. The program also carries a message that no employee is exempt from participating in environmental stewardship.

Accomplishments

The T.E.A.M. Test program is certainly successful, as witnessed by a variety of outcomes.

❖ Challenges were initiated during the first two months of testing –– individuals and departments challenged each other to be the first not only to complete the Test but to obtain a perfect score.

❖ Employees scrutinize the Test material. We have fielded several challenges regarding Test information, questions concerning the accuracy of the material, and requests for follow–up material. Obviously, environmental thought has been stimulated.

❖ Based on comments from Tenneco employees and other parties (e.g., University of Houston, Nature Conservancy), the T.E.A.M. Test is being reviewed for commercial development.

Tenneco believes in this far–reaching program. Tenneco expects to gain an informed, interested, motivated and proactive group of employees that will "build the T.E.A.M." We hope that our public and private neighbors will benefit from the good practices exercised at Tenneco sites.

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Appendix A.
DEPARTMENTAL EH&S TRAINING PROGRAM CHECKLIST

The following checklist provides guidance on typical criteria used to develop a departmental EH&S training program.

Administrative Plan
❒ Written
❒ Appointed coordinator
❒ Responsibilities listed & assigned to individuals
❒ Emphasizes job–specific EH&S training
❒ List of written EH&S training requirements for each individual
❒ Annual review and update of training requirements based on process and person changes
❒ Revision of training requirements triggered in anticipation of process and personnel changes
❒ Job analysis by multidisciplinary team including EH&S experts
❒ Signed verification of completeness of EH&S curriculum
❒ Signed verification of quality of all courses
❒ Frequent (monthly) record review and scheduling of necessary courses
❒ New employees receive all necessary EH&S training before they begin work
❒ Use site system to promote site program administration

Curriculum
❒ Courses/media used for EH&S training meet quality criteria
❒ Correct courses are listed for each person based on job hazards, regulatory and site requirements

Record Keeping
❒ Records are conveniently accessible and consistent
❒ Records include: attendance, signatures, lesson plans, regulatory reference, instructor identity and qualifications
❒ Records indicate that all EH&S training is current
❒ Records show all new employees receive all necessary EH&S training before they begin work
❒ Site records are used for local program administration

Performance
❒ Employees know what they need to know
❒ Employees do what they need to do

Management Commitment/Accountability
❒ Managers/Supervisors held accountable for their employees meeting EH&S training plans

Appendix B.
DEPARTMENTAL EH&S TRAINING MATRIX

Step   Action
1. In consultation with your EH&S team, identify the hazards & EH&S training requirements for your department.

2. Create a customized "Department Training Matrix." Select headings to meet training requirements for your department.

3. Group names of all department members with the same training require ments. Typically these groupings will be according to job.

4. For each person in your unit fill in all cells in the row. Indicate "N/A" for Not Applicable or an appropriate expiration date.

5. On a monthly schedule, review and update Department Training Matrix to (a) anticipate expiration dates, (b) schedule timely training updates, and (c) keep Matrix current. For the sake of simplicity, you may wish to schedule all those who need particular training during the same month.

6. On an annual schedule, review with your EH&S team, the hazards and EH&S training requirements pertinent to your department.

Departmental Training Matrix

Name	Employee No.	Hazardous Waste Disposal ENV-00857	Lab Standard (Operator) HS-00365	Spill Response – Marine Vessels ENV-15410	Asbestos-Demolition and Removal ENV-61145	AICS Lab Safety Health HS-58002	Servicing of Motor Vehicle Air Conditioners ENV-82344
		1 Time Within six months of job assignment	1 Time Within six months of job assignment	Annual drills	Every 2 yrs.	1 Time	1 Time
Tina	95387	Completed	Completed	NA	NA	NA	Completed
Rich	45237	Completed	NA	NA	1/18/96	NA	NA
Vic	78652	Completed	NA	6/7/95	1/18/96	NA	Completed
Grant	26354	Completed	Completed	6/7/95	1/18/96	Completed	NA
Bill	38745	Completed	NA	NA	1/18/96	NA	NA
Mike	35987	Completed	Completed	10/13/95	1/18/96	NA	Completed

Appendix C.
PROTOTYPE DEPARTMENTAL EH&S TRAINING PLAN

Note: This prototype plan assigns unique names for committees and positions. They are not intended to be full-time positions or committees with no other purpose. The named positions and committees should be filled by people who already have responsibility for the activities described here.

In the _____ Department environmental, health, and safety training of individual employees is coordinated by the EH&S Training Representative, using the following process.

Management Process

Step	Action
1.	Appoint an EH&S Training Team (identified in the attached list of Resources) to identify the EH&S hazards and training requirements for each job.
2.	The EH&S Training Rep creates a custom EH&S Training Matrix with headings to meet training requirements of each individual in the department.
3.	The EH&S Training Rep groups the names of all department members with the same training requirements. Typically this grouping will be according to job.
4.	For each person in the department the EH&S Training Rep fills in all cells in the row with either "N/A" (for Not Applicable) or expiration date.
5.	On a monthly basis the EH&S Training Rep reviews & updates the Departmental EH&S Training Matrix to

    (a)   record course completion,
    (b)   schedule timely training updates, and
    (c)   update the Matrix with personnel & process changes.

Step	Action
6.	Each month, as each Departmental EH&S Training Matrix is updated, a copy of the current matrix is submitted by the EH&S Training Rep to the Divisional EH&S Training Coordinator.
7.	On an annual schedule, EH&S Training Team assesses the department's EH&S training program using the Departmental EH&S Self–Evaluation and arranges to close any gaps identified.
Note 1	The Human Resources Representative is responsible for informing the EH&S Training Rep of the impending new hire or transfer of any employee as early as possible, so that training can be completed before the new person begins work.
Note 2	The Process Engineering Manager is responsible for informing the EH&S Training Rep of any impending process changes as early as possible, so that training can be completed before the individuals face new responsibilities or hazards.
Note 3	Annually EH&S training budgets are developed by each supervisor based on the training needs documented in the Department EH&S Training Matrix.

Resources (as appropriate)

Departmental Environmental, Health, & Safety Training Representative
(Name) _____

Members of the Departmental Environmental, Health, & Safety Training Team:
Line Manager (Name) _____
Industrial Hygienist (Name)_____
Safety Engineer (Name) _____
Environmental Coordinator (Name)_____
Nurse/Physician (Name) _____
Effective Date_____
Department Manager _____

RECOMMENDED SOURCES OF TRAINING MATERIALS

Many high quality EH&S training materials are available. The following professional organizations provide assistance in locating training guidance and materials:

> National Society for Performance and Instruction (NSPI)
> 1300 L Street N.W., Suite 1250
> Washington, DC 20005
> (202) 408–7969

> American Society for Training and Development (ASTD)
> 1640 King Street
> Alexandria, VA 22313–2043
> (703) 683–8100

> The National Environmental Training Association
> 2930 East Camelback Road, Suite 185
> Phoenix, AZ 85016–412
> (602) 956–6099

The members of NSPI and ASTD are among the leaders in the fields of training and performance technology. They publish books and periodicals in these areas. The National Environmental Training Association certifies environmental trainers.

Other EH&S organizations in the United States have committees, publications, and support for aspects of EH&S training.

> Air and Waste Management Association (AWMA)
> American Academy of Environmental Engineers (AAEE)
> American Industrial Hygiene Association (AIHA)
> American Public Health Association (APHA)
> American Society of Safety Engineers (ASSE)
> National Association of Environmental Professionals (NAEP)
> National Safety Council (NSC)

In addition to professional organizations, consultants (i.e., brokers and vendors) in the training field have appeared who can help you identify existing material to meet your EH&S training needs. Their guidance will help you to work through the complexity of the marketplace.

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Title _____

Company _____

Address _____

_____

How would you rate this primer on:

	Excellent	Good	Fair	Poor
Presenting a good discussion of EH&S training	1	2	3	4
Presenting information I can use in my company or facility	1	2	3	4
Using clear and understandable language	1	2	3	4
Being well-organized and easy to understand	1	2	3	4
Representing the "state of the art" in EH&S	1	2	3	4

Is your company a member of GEMI?

❏ Yes
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