

TRAINING

Summary

Any issue which presents a potential hazard requires training. An employee should not be assigned a job until he has received instructions on how to do the job safely and properly and has been authorized to perform that job. In addition, specific OSHA programs require training in (a) the elements of your safety program and (b) how job hazards should be dealt with. All training should be documented.

Safety Meetings

Safety meetings should be documented as training sessions and should be held at least monthly. All affected employees and their supervisors should be in attendance. To demonstrate management commitment, a member of upper management should also participate.

NWSA publishes a monthly safety topic which you may use as a guide for conducting and recording safety meetings. These topics are not mandatory and should be postponed for future use if there is a more pressing issue in your distributorship. The Monthly Safety Topic is mailed to all distributor-members as part of their membership package and is available on NWSA's website (www.nwsa.com) as part of the Monthly Safety Organizer.

Daily Instruction

Not all training sessions are planned events. During each workday, supervisors routinely instruct employees in proper work practices such as cylinder securement, forklift operation, use of hand trucks, etc; instruction in work practices is a routine part of management. Ideally, each instance of instruction should be documented, but this is impractical in the normal work environment. As a rule of thumb, document as much as you can, even if it is in the form of simple notes to be placed in the employee's training file. Some things you should be especially conscious of documenting are:

- instances of having to instruct an employee more than once regarding the same practice
- training pursuant to an accident or near miss
- any instruction which involves a personal demonstration
- training to comply with a specific Standard

Branch managers should be instructed to accumulate notes relating to instruction of employees and periodically forward these to the individual responsible for maintaining training records.

‘Toolbox’ Meetings

One way of covering a lot of topics in a short time is the ‘Toolbox’ Meeting – a short meeting (usually about 5-10 minutes) at the beginning of the work shift. Each supervisor meets with his/her employees and briefly discusses a topic relating to their work duties. For example, topics may include how to properly position a load on a forklift, how to nest cylinders, or reviews of company policies such as loading cylinders in automobiles, designated smoking areas, or policies relating to security. Toolbox meetings are not mandatory but may be an excellent way to focus training where it is needed and continually remind employees of safe work practices.

Other Training Resources

Use your resources! A number of local resources are available to assist in your training program. For example, if you plan a course on fire safety or use of fire extinguishers, call your local fire department; they will be glad to send someone to conduct the course for you. Manufacturers’ representatives are often factory-trained in the proper use of the equipment they sell and would be grateful for the opportunity to work more closely with you. Even other employees may offer excellent training resources; someone with a good personal story that all can relate to is often more effective than the most sophisticated professional trainer.

The NWSA consultants are available for training and consultation on DOT truck, driver, and hazardous materials regulations, cylinder requalification, FDA regulations, cylinder filling, and general safety requirements.

Remember: Although outside help may be an important aspect of your training program, remember that *you* are ultimately responsible for the training employees receive. Thoroughly prepare your presenter in advance for what you expect to be accomplished during the training session. He/she should be apprised of the number of attendees, their average education level, the type jobs they perform, how long they have held those jobs, etc.

Specific Standards

Your training program should address topics relevant to the needs of your facility, beginning with the most likely hazards. In addition, many OSHA Standards specifically require training. Some of the most significant Standards for distributorships are: Hazard Communication (§17), Lockout-Tagout (§20), Emergency Action / Fire Prevention (§34), Bloodborne Pathogen (§37), Confined Spaces (§22), and Personal Protective Equipment (§31). Other Standards may also be applicable. A list of OSHA-required training is located behind TAB 15. In addition, DOT and FDA also have training requirements (see *NWSA Compliance Manuals*, DOT and FDA/EPA).

Documentation / Recordkeeping

The reverse side of the NWSA Monthly Safety topic is satisfactory for most general safety training (see sample in Appendix). Some Standards, however, require more detailed information which is explained in the various Standards-specific sections of this manual.

Training records may be maintained by company, branch, individual employee, date, topic, etc.

Most OSHA standards do not stipulate a retention period for training records. As a rule of thumb, it is best to maintain training records for an employee throughout his / her employment.

If your training involves a written quiz, *always test to 100%*. If an employee misses a question, explain the rule which leads to the correct answer and give the employee an opportunity to try again.

Training Tips

On-the-job (OJT), classroom, practical demonstration, and other methods are generally acceptable. There is no “right or wrong” way to train employees, as training methods differ depending on the education level of trainees, subject matter, amount and frequency of exposure to hazard(s), etc. Consider the following:

- Attention spans are short immediately after lunch. Take frequent breaks.
- Videos make training easier, but they cannot answer questions or alter the pace when needed. A video should not comprise the entire training session.
- Training should not consist of merely handing the employee written material, such as a Material Safety Data Sheet.
- OSHA statistics show that new employees and employees moving to new jobs are more accident-prone because they are learning unfamiliar operations.
- The more personally involved an employee is in the training process (as opposed to sitting passively in a classroom), the better the retention.

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Safety Topic

November, 2001

Topic: Facility Security

INTRODUCTION: Recognizing the need for increased security wherever hazardous materials are produced or stored, the US Government has asked all companies involved with hazmats to create company security policies and train their employees accordingly.

GOAL: To enlist employees' assistance in formulating a security policy, thereby ensuring that everyone has "bought into" the program.

ITEMS TO CONSIDER: After discussing the Traffic Bulletin and other pertinent literature, ask employees to help identify weak areas or operations of particular concern. Discuss feasible alternatives to your present practices that would make the operation more secure; as this is outside the arena of traditional safety training, all suggestions should be considered.

Know something about the customers with whom you deal. Your policy should include instruction to report suspicious behavior, such as persons asking questions regarding types or quantities of gases stored, delivery routes, and similar questions which are not normally relevant to a customer/supplier relationship.

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Training Guidelines

Source: *Training Requirements in OSHA Standards and Training Guidelines*, U.S. Department of Labor, Occupational Safety and Health Administration.

Training Guidelines

1. Determining if Training is Needed

The first step in the training process is a basic one: to determine whether a problem can be solved by training. Whenever employees are not performing their jobs properly, it is often assumed that training will bring them up to standard. However, it is possible that other actions (such as hazard abatement or the implementation of engineering controls) would enable employees to perform their jobs properly.

Ideally, safety and health training should be provided before problems or accidents occur. This training would cover both general safety and health rules and work procedures, and would be repeated if an accident or near miss incident occurred.

Problems that can be addressed effectively by training include those that arise from lack of knowledge of a work process, unfamiliarity with equipment, or incorrect execution of a task. Training is less effective (but still can be used) for problems arising from an employee's lack of motivation or lack of attention to the job. Whatever its purpose, training is most effective when designed in relation to the goals of the employer's total safety and health program.

2. Identifying Training Needs

If the problem is one that can be solved, in whole or in part, by training then the next step is to determine what training is needed. For this, it is necessary to identify *what* the employee is expected to do and in what ways, if any, the employee's performance is deficient. This information can be obtained by conducting a job analysis which pinpoints what an employee needs to know in order to perform a job.

When designing a **new training** program, or preparing to instruct an employee in an unfamiliar procedure or system, a job analysis can be developed by examining engineering data on new equipment or the safety data sheets on unfamiliar substances. The content of the specific Federal or State OSHA standards applicable to a business can also provide direction in developing training content. Another option is to conduct a Job Hazard Analysis (see OSHA 3071, same title, 1981). This is a procedure for studying and recording each step of a job, identifying existing or potential hazards, and determining the best way to perform the job in order to reduce or eliminate the risks. Information obtained from a Job Hazard Analysis can be used as the content for the training activity. If an employer's learning needs can be met by revising an existing

training program rather than developing a new one, or if the employer already has some knowledge of the process or system to be used, appropriate training content can be developed through such means as:

- Using company accident and injury records to identify how accidents occur and what can be done to prevent them from recurring.
- Requesting employees to provide, in writing and in their own words, descriptions of their jobs. These should include the tasks performed and the tools, materials and equipment used.
- Observing employees at the worksite as they perform tasks, asking about the work, and recording their answers.
- Examining similar training programs offered by other companies in the same industry, or obtaining suggestions from such organizations as the National Safety Council (which can provide information on Job Hazard Analysis), the Bureau of Labor Statistics, OSHA approved State programs, OSHA full service Area Offices, OSHA-funded State consultation programs, or the OSHA Office of Training and Education.

The employees themselves can provide valuable information on the training they need. Safety and health hazards can be identified through the employees' responses to such questions as whether anything about their jobs frightens them, if they have had any near-miss incidents, if they feel they are taking risks, or if they believe that their jobs involve hazardous operations or substances.

3. Identifying Goals and Objectives

Once the kind of training that is needed has been determined, it is equally important to determine what kind of training is **not** needed. Employees should be made aware of all the steps involved in a task or procedure, but training should focus on those steps on which improved performance is needed. This avoids unnecessary training and tailors the training to meet the needs of the employees.

Once the employees' training needs have been identified, employers can then prepare objectives for the training. Instructional objectives, if clearly stated, will tell employers what they want their employees to do, to do better, or to stop doing.

Learning objectives do not necessarily have to be written, but in order for the training to be as successful as possible, clear and measurable objectives should be thought out before the training begins. For an objective to be effective it should identify as precisely as possible what the individuals will do to demonstrate that they have learned, or that the objective has been reached. They should also describe the important conditions under which the individual will demonstrate competence and define what constitutes acceptable performance. Using specific, action-oriented language, the instructional objectives should describe the preferred practice or skill and its observable behavior.

For example, rather than using the statement: “The employee will understand how to use a respirator” as an instructional objective, it would be better to say: “The employee will be able to describe how a respirator works and when it should be used.” Objectives are most effective when worded in sufficient detail that other qualified persons can recognize when the desired behavior is exhibited.

4. Developing Learning Activities

Once employers have stated precisely what the objectives for the training program are, then learning activities can be identified and described. Learning activities enable employees to demonstrate that they have acquired the desired skills and knowledge. To ensure that employees transfer the skills or knowledge from the learning activity to the job, the learning situation should simulate the actual job as closely as possible. Thus, employers may want to arrange the objectives and activities in a sequence which corresponds to the order in which the tasks are to be performed on the job, if a specific process is to be learned. For instance, if an employee must learn the beginning processes of using a machine, the sequence might be: **(1)** to check that the power source is connected; **(2)** to ensure that the safety devices are in place and are operative; **(3)** to know when and how to throw the switch; and so on.

A few factors will help to determine the type of learning activity to be incorporated into the training. One aspect is the training resources available to the employer. Can a group training program that uses an outside trainer and film be organized, or should the employer personally train the employees on a one-to-one basis? Another factor is the kind of skills or knowledge to be learned. Is the learning oriented toward physical skills (such as the use of special tools) or toward mental processes and attitudes? Such factors will influence the type of learning activity designed by employers. The training activity can be group-oriented, with lectures, role play, and demonstrations; or designed for the individual as with self-paced instruction.

The determination of methods and materials for the learning activity can be as varied as the employer’s imagination and available resources will allow. The employer may want to use charts, diagrams, manuals, slides, films, viewgraphs (overhead transparencies), videotapes, audiotapes, or simply blackboard and chalk, or any combination of these and other instructional aids. Whatever the method of instruction, the learning activities should be developed in such a way that the employees can clearly demonstrate that they have acquired the desired skills or knowledge.

5. Conducting the Training

With the completion of the steps outlined above, the employer is ready to begin conducting the training. To the extent possible, the training should be presented so that its organization and meaning are clear to the employees. To do so, employers or supervisors should: **(1)** provide overviews of the material to be learned; **(2)** relate, wherever possible, the new information or skills to the employee’s goals, interests, or

experience; and **(3)** reinforce what the employees learned by summarizing the program's objectives and the key points of information covered. These steps will assist employers in presenting the training in a clear, unambiguous manner.

In addition to organizing the content, employers must also develop the structure and format of the training. The content developed for the program, the nature of the workplace or other training site, and the resources available for training will help employers determine for themselves the frequency of training activities, the length of the sessions, the instructional techniques, and the individual(s) best qualified to present the information.

In order to be motivated to pay attention and learn the material that the employer or supervisor is presenting, employees must be convinced of the importance and relevance of the material. Among the ways of developing motivation are: **(1)** explaining the goals and objectives of instruction; **(2)** relating the training to the interests, skills, and experiences of the employees; **(3)** outlining the main points to be presented during the training session(s); and **(4)** pointing out the benefits of training (e.g., the employee will be better informed, more skilled, and thus more valuable both on the job and on the labor market; or the employee will, if he or she applies the skills and knowledge learned, be able to work at reduced risk).

An effective training program allows employees to participate in the training process and to practice their skills or knowledge. This will help to ensure that they are learning the required knowledge or skills and permit correction if necessary. Employees can become involved in the training process by participating in discussions, asking questions, contributing their knowledge and expertise, learning through hands-on experiences, and through role-playing exercises.

6. Evaluating Program Effectiveness

To make sure that the training program is accomplishing its goals, an evaluation of the training can be valuable. Training should have, as one of its critical components, a method of measuring the effectiveness of the training. A plan for evaluating the training session(s), either written or thought-out by the employer, should be developed when the course objectives and content are developed. It should not be delayed until the training has been completed. Evaluation will help employers or supervisors determine the amount of learning achieved and whether an employee's performance has improved on the job. Among the methods of evaluating training are: **(1) Student opinion.** Questionnaires or informal discussions with employees can help employers determine the relevance and appropriateness of the training program; **(2) Supervisors' observations.** Supervisors are in good positions to observe an employee's performance both before and after the training and note improvements or changes; and **(3) Workplace improvements.** The ultimate success of a training program may be changes throughout the workplace that result in reduced injury or accident rates.

However it is conducted, an evaluation of training can give employers the information necessary to decide whether or not the employees achieved the desired results, and whether the training session should be offered again at some future date.

7. Improving the Program

If, after evaluation, it is clear that the training did not give the employees the level of knowledge and skill that was expected, then it may be necessary to revise the training program or provide periodic retraining. At this point, asking questions of employees and of those who conducted the training may be of some help. Among the questions that could be asked are: **(1)** Were parts of the content already known and, therefore, unnecessary? **(2)** What material was confusing or distracting? **(3)** Was anything missing from the program? **(4)** What did the employees learn, and what did they fail to learn?

It may be necessary to repeat steps in the training process, that is, to return to the first steps and retrace one's way through the training process. As the program is evaluated, the employer should ask: **(1)** If a job analysis was conducted, was it accurate? **(2)** Was any critical feature of the job overlooked? **(3)** Were the important gaps in knowledge and skill included? **(4)** Was material already known by the employees intentionally omitted? **(5)** Were the instructional objectives presented clearly and concretely? **(6)** Did the objectives state the level of acceptable performance that was expected of employees? **(7)** Did the learning activity simulate the actual job? **(8)** Was the learning activity appropriate for the kinds of knowledge and skills required on the job? **(9)** When the training was presented, was the organization of the material and its meaning made clear? **(10)** Were the employees motivated to learn? **(11)** Were the employees allowed to participate actively in the training process? **(12)** Was the employer's evaluation of the program thorough?

A critical examination of the steps in the training process will help employers determine where course revision is necessary.

Matching Training to Employees

While all employees are entitled to know as much as possible about the safety and health hazards to which they are exposed, and employers should attempt to provide all relevant information and instruction to all employees, the resources for such an effort frequently are not, or are not believed to be, available. Thus, employers are often faced with the problem of deciding who is in the greatest need of information and instruction.

One way to differentiate between employees who have priority needs for training and those who do not is to identify employee populations which are at higher levels of risk. The nature of the work will provide an indication that such groups should receive priority for information on occupational safety and health risks.

- **Identifying Employees at Risk**

One method of identifying employee populations at high levels of occupational risk (and thus in greater need of safety and health training) is to pinpoint hazardous occupations. Even within industries which are hazardous in general, there are some employees who operate at greater risk than others. In other cases the hazardousness of an occupation is influenced by the conditions under which is performed, such as noise, heat or cold, or safety or health hazards in the surrounding area. In these situations, employees should be trained not only on how to perform their job safely but also on how to operate within a hazardous environment.

A second method of identifying employee populations at high levels of risk is to examine the incidence of accidents and injuries, both within the company and within the industry. If employees in certain occupational categories are experiencing higher accident and injury rates than other employees, training may be one way to reduce that rate. In addition, thorough accident investigation can identify not only specific employees who could benefit from training but also identify company-wide training needs.

Research has identified the following variables as being related to a disproportionate share of injuries and illnesses at the worksite on the part of employees:

1. The age of the employee (younger employees have higher incidence rates).
2. The length of time on the job (new employees have higher incidence rates).
3. The size of the firm (in general terms, medium-size firms have higher incidence rates than smaller or larger firms).
4. The type of work performed (incidence and severity rates vary significantly by SIC Code).
5. The use of hazardous substances (by SIC Code).

These variables should be considered when identifying employee groups for training in occupational safety and health.

In summary, information is readily available to help employers identify which employees should receive safety and health information, education and training, and who should receive it before others. Employers can request assistance in obtaining information by contacting such organizations as OSHA Area Offices, the Bureau of Labor Statistics, OSHA approved State programs, State onsite consultation programs, the OSHA Office of Training and Education, or local safety councils.

- **Training Employees at Risk**

Determining the content of training for employee populations at higher levels of risk is similar to determining what any employee needs to know, but more emphasis is placed on the requirements of the job and the possibility of injury. One useful tool for determining training content from job requirements is the Job Hazard Analysis described earlier. This procedure examines each step of a job, identifies existing or potential hazards, and determines the best way to perform the job in order to reduce or eliminate the hazards. Its key elements are: **(1)** job description; **(2)** job location; **(3)** key steps (preferably in the order in which they are performed); **(4)** tools, machines and materials used; **(5)** actual and potential safety and health hazards associated with these key job steps; and **(6)** safe and healthful practices, apparel, and equipment required for each job step.

Material Safety Data Sheets (MSDS) can also provide information for training employees in the safe use of materials. These data sheets, developed by chemical manufacturers and importers, are supplied with manufacturing or construction materials and describe the ingredients of a product, its hazards, protective equipment to be used, safe handling procedures, and emergency first-aid responses. The information contained in these sheets can help employers identify employees in need of training (i.e., workers handling substances described in the sheets) and train employees in safe use of the substances. Material Safety Data Sheets are generally available from suppliers, manufacturers of the substance, large employers who use the substance on a regular basis, or they can be developed by employers or trade associations. MSDS are particularly useful for those employers who are developing training on chemical use as required by OSHA's Hazard Communication Standard.

Conclusion

In an attempt to assist employers with their occupational health and safety training activities, OSHA has developed a set of training guidelines in the form of a model. This model is designed to help employers develop instructional programs as part of their total education and training effort. The model addresses the questions of who should be trained, on what topics, and for what purposes. It also helps employers determine how effective the program has been and enables them to identify employees who are in greatest need of education and training. The model is general enough to be used in any area of occupational safety and health training, and allows employers to determine for themselves the content and format of training. Use of this model in training activities is just one of many ways that employers can comply with the OSHA standards that relate to training and enhance the safety and health of their employees.

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