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ABSTRACT

This self-paced student training module on safety is one of a number of modules developed for Pre-apprenticeship Phase 1 Training. Purpose of the module is to teach students the importance of becoming aware of safety, including causes of accidents, unsafe acts, and safety planning. The module may contain some or all of the following: a cover sheet listing module title, goal, and performance indicator; study guide/checklist with directions for module completion; introduction; information sheets providing information and graphics covering the module topic(s); self-assessment; self-assessment answers; post assessment; and post-assessment answers. (YLB)

INDIVIDUALIZED LEARNING SYSTEMS

PRE-APPRENTICESHIP PHASE 1 TRAINING

GENERAL SAFETY

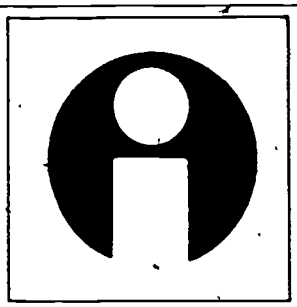
Goal:

The student will learn the importance of becoming aware of safety, including causes of accidents, unsafe acts and safety planning. Responsibilities of various parties under the terms of the OSH Act of 1970 are outlined.

Performance Indicators:

The student's performance will be tested by the successful completion of Assessment exams at the conclusion of the module.

Study Guide



This study guide is to be used by the student as a "blueprint" to successfully complete this module. Please complete all of the following steps, and check them off as you complete them.

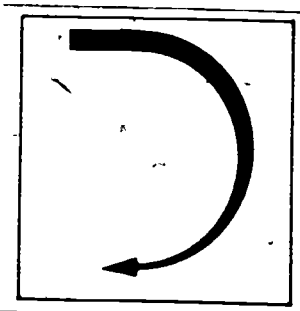
1. ____ Familiarize yourself with the Goal and Performance Indicators of this module. This will give you an overall view of what the module contains and what you'll have to do to complete it.

2. ____ Study the Information section thoroughly. This will provide you with the knowledge necessary to pass the exam.

3. ____ Take the Self Assessment Exam which follows the Information section. The exam is designed to determine whether you have learned enough from the Information section to sucessfully complete the Post Assessment exam. You may refer to the Information section for assistance, but if you have too much trouble on the Self Assessment portion, you should re-study the Information section before going to step 4. Compare your Self Assessment answers with those on the Self Assessment Answer Sheet following the Self Assessment exam.

4. ____ Complete the Post Assessment Exam and turn it in to your instructor for grading. It is recommended that you score 90% or better on the Post Assessment before going on to the next module.

Introduction



GENERAL SAFETY

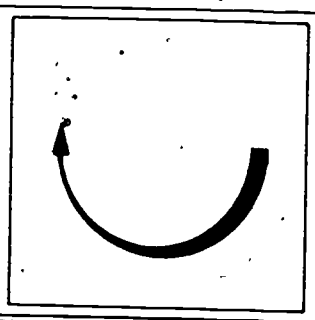
THE IMPORTANCE OF SAFETY

Employees owe it to themselves, their families, their co-workers, and their employers to work in the safest manner. Unless safety principles and practices are faithfully observed every day, the time and effort an apprentice puts forth in learning a trade could become a tragic waste. Taking the time now to learn about job safety can mean the difference between life and death or between living a normal, productive life and having to struggle for a decent living as a result of a physical handicap.

By their very nature, occupations within the construction industry are extremely hazardous, and an employer or an employee who lacks concern for on-the-job safety contributes toward an increased possibility of accident or death on the job.

This topic and those that follow on safety are designed to help apprentices become aware of some of the hazards of the trade, to help them become safety minded, and to enable them to use their reasoning powers to recognize dangerous situations.

Information



For the past several years, the number of employees killed has averaged 14,200 a year. From 1960 through 1970 there were over 150,000 fatalities. In 1972, more than 50 million employee-days were lost because of disabling injuries, and the known cost of accidents--not counting property damage--was over $11.5 billion. Unknown costs, resulting directly from accidents but not recorded, or not possible to record, are several times higher. These figures do not include most of the deaths and disabling illnesses from occupational disease. Most of these were not recorded before enactment of the Williams-Steiger (OSHA) Act of 1970.

Recently, employers, unions, employees, and various government agencies have seen the need for developing effective programs to improve occupational safety and health. The importance of keeping employees safe and healthy has achieved such wide-spread recognition that a broad and detailed national program finally has emerged.

Everyone is beginning to realize there is an obligation to protect individuals from on-the-job accidents and illnesses.

While more than 50 million employee days were lost in 1972, it's obvious that great losses in employee productivity, not to mention the 14,000 employees killed, were recorded. For example, it would take 188,000 men working for one year, five days a week, eight hours a day, with no vacations or time off, to make up for this lost time. These figures point out that too many employees are disabled form industrial accidents. However, many disabling injuries can be prevented.

It is impossible to put a dollar value on the tremendous wasted ability and contribution lost to society because of the death or disability of a fellow human.

CAUSES OF ACCIDENTS

An accident is an unplanned and unforeseen occurence that interferes with or interrupts the orderly progress of an activity. Although by this definition

accidents do not necessarily involve injury or death, in fact they all too often do. Accidents that do occur should be analyzed to determine why and how they occurred and to determine what steps should be taken to ensure that similar accidents do not occur again. Accidents are caused for the most part by unsafe conditions, unsafe acts, or some combination of these two hazards.

Unsafe conditions on the job site may be present in the form of equipment that is poorly designed or constructed, improperly installed, or badly maintained. Unguarded equipment, defective or wrong hand tools, poor housekeeping, and inadequate lighting are common factors that make for unsafe working conditions.

UNSAFE ACTS

Unsafe acts are violations of safe working practices. Wearing loose-fitting clothing on the job, operating machinery without the required guards or improperly throwing instead of carrying materials, lifting or carrying with the back bent, and engaging in horseplay on the job are all examples of unsafe acts.

Unsafe conditions and unsafe acts are both threats to the worker's safety, but the majority of industrial accidents are caused by a combination of these hazards. A wheelbarrow with cracked or loose handles (unsafe condition) may not play a part in an accident until a worker attempts to move a heavy, unbalanced load in it (unsafe act). A power saw with an unguarded blade is not likely in itself to cause an accident, but a severe injury can result if a worker disregards the unsafe condition of the machine and as a result gets his hand in the way of the blade.

PREJOB SAFETY PLANNING

Although a great deal of time and money have been spent by safety-oriented organizations to improve accident-prevention efforts on the job site, prejob planning continues to be of the utmost importance in providing for the safety of those involved with a construction project. This planning is a cooperative effort and demands the participation of the contractor, the union representative, and the workers. During the prejob planning, an attempt is made to establish rules for safety on the particular project, to anticipate problems that could arise, and to determine appropriate methods for protecting the persons involved with the job and the job site.

In the decade of the 60's, a sharp increase of job related accidents occurred (29%). A wider use of new chemicals and hazardous materials created a greater source of unsafe conditions. Labor's concern for a safe workplace pushed for passage of legislation and in 1970 the Williams-Steiger Bill was passed. You know it as OHSA, the Occupational Safety and Health Bill of 1970.

THE WILLIAMS-STEIGER OCCUPATIONAL SAFETY AND HEALTH ACT OF 1970

In passing the Williams-Steiger Occupational Safety and Health Act of 1970 (OSHA), the federal government declared safety on the job to be everyones responsibility. The purpose of OSHA, which became effective in 1971, is to preserve human resources and to ensure so far as possible that every worker in the nation will have safe and healthful working conditions. This law applies to all states and U.S. territories, but it provides that the states may develop their own plans for meeting the requirements of the law.

RESPONSIBILITY OF EMPLOYERS

The Williams-Steiger Act requires that every employer furnish his employees a place of employment that is free from recognized hazards that might cause serious injury or death. The act further requires that employers comply with the specific safety and health standards issued by the U.S. Department of Labor.

RESPONSIBILITY OF EMPLOYEES

In accordance with the provisions of the Williams-Steiger Act, all employees must comply with safety and health standards, rules, regulations, and orders issued under the act and applicable to their personal conduct.

ADMINISTRATION OF THE WILLIAMS-STEIGER ACT

The administration and enforcement of OSHA are vested primarily in the Secretary of Labor and the New Occupational Safety and Health Review Commission. The basic purpose of the Act is "to assure, as far as possible, every working man and woman in the nation safe and healthful working conditions and to preserve our human resources." The "safe and healthful working conditions" will be assured by authorizing enforcement of the standards developed under the Act. Assisting and encouraging the states in their efforts to assure safe and healthful working conditions and providing for research, information, education, and training in the field of occupational safety and health are also intents of the Act.

OSHA covers about 60,000,000 people in 5,000,000 workplaces; excludes Federal employees, State and political subdivisions thereof and certain waterfront workers.

APPRENTICESHIP AND SAFETY

A major goal of all apprenticeship programs is to provide the apprentice with the knowledge and skills needed to work safely in his or her trade. Much time, effort, and money will be devoted to making an apprentice a skilled craftworker, all of which will be wasted if an industrial accident cuts short the apprentice's career and perhaps, life.

Apprentices are expected to learn how to work safely; to study the laws governing safety; to understand the principles upon which safe work practices are based; and to conduct themselves at all times with due consideration for their own safety and that of their co-workers.

The apprentice should keep in mind that accidents do not just happen. Accidents are caused by people, and they happen most often to people who fail to work in a safe manner.

VOCABULARY

Terms and Definitions

A. OSHAct--An abbreviation for the Occupational Safety and Health Act of 1970. The Act provides for minimum safety and health standards for working conditions. It is a Federal Act of Congress.

B. OSHA--An abbreviation for the Occupational Safety and Health Administration. OSHA is part of the United States Department of Labor and its main duties are to:

1. Encourage employers and employees to reduce hazards in their workplaces.
2. Establish responsibilities and rights of employers and employees.
3. Encourage new safety and health programs.
4. Establish record keeping procedures to keep track of injuries and illnesses that happen on/or because of the job.
5. Develop standards and enforce them.
6. Encourage the states to establish safety and health programs.

C. Standards--These are the rules that are set up by OSHA to provide minimum assurance of on-the-job safety. We will be concerned mainly with construction standards. There are two types of standards:

1. Horizontal standards - those applying to all industries.
2. Vertical standards - those applying to one special industry.

D. Variance--This is an exemption for an employer from a particular standard. There are several types of variances:

1. Temporary - when a standard cannot be complied with so other arrangements are made for the time being.
2. Permanent - when a means different from the standard provides adequate safety and health conditions.
3. Experimental - when testing new methods of safety.
4. Other - when there is a national emergency situation.

E. Accident--An unplanned, uncontrolled event which results in personal injury or the chance of personal injury. Accidents cost the U.S. at least $47 billion a year. Of this, $16 billion is due to accidents at work. Work accidents kill more than 12,000 people and cause over 2,000,000 disabling injuries per year in the U.S.

F. Hazard--Something that is potentially dangerous and if not corrected could cause an accident.

G. Contractor--An employer in construction. There are two types:

1. Prime or general contractor - the contractor in charge of the entire construction project and all of its phases. He or she is responsible for the overall safety and health of everyone working.

2. Sub-contractor - a contractor who works for the prime or general contractor and is responsible for some phase of the project such as pluming or painting. Each sub-contractor is responsible for the safety and health of his/her own employees.

H. Safety Director--The person responsible for putting a good safety program to work and keeping it running effectively on a company-wide basis. In large companies there may be a full-time safety director, while in small companies the superintendent or the contractor may act as the safety director along with his or her other duties.

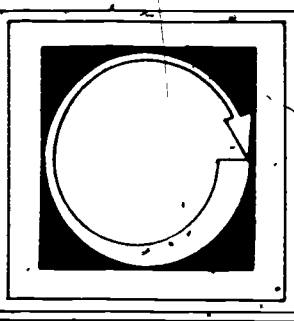
I. Project Superintendent--The person in charge of the entire project, usually reporting to the prime contractor. This person is responsible for putting the safety program to work on the project and making sure the workers follow it.

J. Safety Supervisor--On large projects there may be a full-time person who is assigned by the superintendent to run the safety program, including inspections, investigations, and record keeping.

K. Foreman--The person in charge of a small group of employees. He or she is usually very experienced in her or his trade.

L. Employee--Anyone who works for a contractor or is working on the job site. (TM 1 - 1.)

Self Assessment



Determine the correct word(s) for each statement and fill in the blanks.

1. Accidents are caused for the most part by unsafe _____, unsafe _____, or a combination of these hazards.

2. In passing the Williams-Steiger Occupational Safety and Health Act of 1970, the federal government declared that on-the-job safety is the responsibility of _____.

3. The responsibility for administering the Williams-Steiger Act rests with the Secretary of _____.

4. Anyone known to be under the influence of _____ _____ should not be permitted on the job while in that condition.

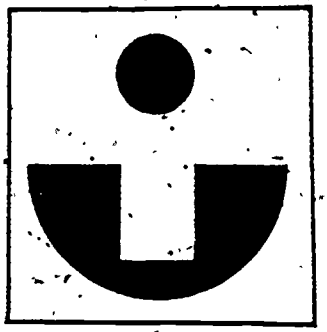
5. Employees should be alert to see that all guards and other protective devices are in their proper places and adjusted, and they should report any deficiencies to the _____ or _____.

6. Repairs or adjustments to machinery should not be made while the equipment is in _____.

7. A worker whose regular duties do not include operating machinery or equipment should not attempt to do so without special _____.

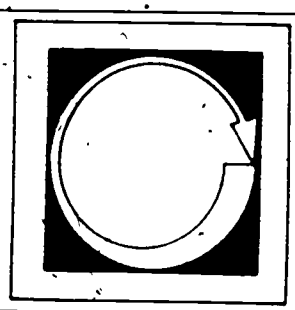
8. An accident is an _____ and _____ occurrence.

Self Assessment Answers



1. conditions, acts
2. everyone
3. labor
4. intoxicants, drugs
5. foreman, safety supervisor
6. motion
7. permission
8. unplanned, unforeseen

Post Assessment



Decide which of the four answers is correct, or most nearly correct; write the corresponding letter in the blanks at the left of each question.

1. ____ Provisions of the Williams-Steiger Occupational Safety and Health Act of 1970 require that employers comply with safety and health standards issued by the

   a. U.S. Senate
   b. Division of Industrial Safety
   c. U.S. Department of Labor
   d. none of the above

2. ____ Workmen's compensation laws have been passed so that workers injured on the job may receive benefit payments

   a. only if the injury was the employer's fault
   b. only if the injury was the employee's fault
   c. if insured through an authorized insurance carrier
   d. in the case of any industrial injury

3. ____ In the lifting of loads, the weight should be carried mostly by the muscles in the

   a. legs
   b. back
   c. arms
   d. abdomen

4. ____ A good program of accident control must include

   a. offering rehabilitation training to injured workers
   b. firing employees who have accidents
   c. correcting unsafe working conditions and practices
   d. putting up safety posters

5. ____ Which of the following is an unsafe act?

   a. sawdust on a stairwell
   b. a ladder with a broken rung
   c. wearing loose-fitting clothing on the job
   d. poor housekeeping

6. ____ OSHA is a result of

a. expanding federal government
b. a decision by construction foremen
c. the safety and health review committee
d. labor's concern for a safe workplace

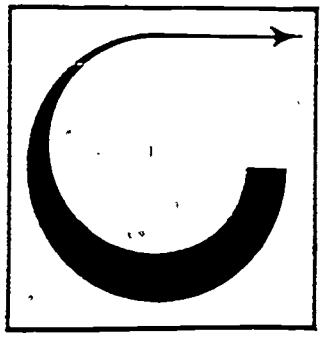
7. ____ During a typical year, in the past few years, the number of employees killed was near

a. 200
b. 750
c. 12,000
d. 100,000

8. ____ Which of the following is not a variance?

a. temporary
b. horizontal
c. experimental
d. permanent

Instructor Post Assessment Answers



1. d
2. d
3. a
4. c
5. c
6. d
7. c
8. b