PLEA 10 HOUR HSE AWARENESS

Study Guide

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Goal of this Study Guide

This study guide provides an introduction to many of the safety principles that will be presented in the PLEA 10 Hour HSE Awareness course. This study guide also introduces numerous safety terms used in the course. Becoming familiar with these safety terms will promote better understanding of the course material and the course exam.

Introduction of the PLEA 10 Hour HSE Awareness Study Guide

This study guide introduces the key points that the PLEA 10 Hr HSE training program covers. This guide cannot cover all of the many safety details that the course provides.

To ensure your safety on the job as well as properly prepare you for the course exam, you will need to focus on the safety principles and practices that are communicated in an appropriate classroom course.

How to use this study guide:

Read the information contained in this study guide. If there are terms you are not able to pronounce, ask someone for assistance - **It is likely that you will see these words again in the course material and the exam.** If you don't understand a safety term or safety principle, write down your question(s) and ask your instructor at a suitable time.

If you find it difficult reading and understanding the information in this study guide, you will probably have difficulty reading and understanding your exam as well. If you have never learned to read, we urge you to attend an adult learning program. (We can provide you with some local area learning program information upon request.) While we will provide assistance to those persons who have challenges with reading we encourage you to learn to read so that you can understand signage and other material at your place of work.

SECTION 1

Everyone must help keep each other to work safely. Employers have the job of identifying and describing the hazards at your worksite…You have the responsibility to learn and follow the 'safe work practices' that you will be taught.

All employees have the right to know the safety and health hazards of substances they may be exposed to on the job. This is important to reduce illness and injury.

The information within this section will summarize:

- Some general requirements of the TT OSH Act and the US OSHA's Standard 1910.1200
- What makes a chemical "hazardous"
- General requirements of a HAZARD COMMUNICATION PROGRAM
- How information on hazardous substances is communicated
- Examples of some hazardous chemicals

This information will help you understand that there may be safety and health hazards at work. It is your responsibility to protect yourself from these hazards.

1.1. US SAFETY STANDARD 1910.1200

The US OSHA's Safety Standard 1910.1200 is sometimes called the ***"Right-to-Know"*** law. This standard was given this nickname because this law in the US says that ***employees have the "right to know" the hazards in their workplace and have the "right to know" how to protect themselves****. Similarly there is a requirement in the TT OSH Act that requires …… Chemicals are Labelled and that employees have access to the Safety Data Sheet of the chemical. TT OSH ACT also has duties for the employer to ensure workers have training and instruction on the chemicals in the workplace.*

3) An employer shall—
(a) ensure that all hazardous chemicals present in the industrial establishment are labelled in a way easily understandable to the employees, or are identified in the prescribed manner;

(b) obtain or prepare, as may be prescribed, an unexpired chemical safety data sheet for all hazardous chemicals present in the workplace;

(c) ensure that the identification required by paragraph *(a)* and chemical safety data sheets required by paragraph *(b)* are available in English and such other languages as may be prescribed;

(d) ensure that when hazardous chemicals are transferred into other containers or equipment, the contents are indicated in a manner which will make known to employees, their identity, any hazards associated with their use, and any safety precautions to be observed; and

(e) ensure that information is provided on the handling and disposal of hazardous chemicals which are no longer required and containers which have been emptied but which may contain residues of hazardous chemicals, so that the risk to safety and health and to the environment is eliminated or minimized.

(4) An employer shall ensure that a hazardous chemical is not used, handled or stored in the industrial establishment unless the prescribed requirements concerning identification, chemical safety data sheets and worker instruction and training are met.

1.2. WHAT MAKES A CHEMICAL "HAZARDOUS"

This is the definition: A **hazardous substance** *is any substance which can cause injury (a physical hazard) or cause illness (a health hazard) in a person.*

A hazardous substance can hurt you in one of two ways:

1. If the substance can cause an explosion, fire, or cause a violent reaction, it is called a ***physical*** hazard. Gasoline is an example of a substance that can create a *physical hazard.*

2. If a substance would cause you to get sick or become ill, then it creates a ***health*** hazard.

Note: In chemicals that produce a health hazard, the substance will cause either ***chronic*** health conditions (conditions or symptoms that are usually long term and do not go away) in the body…
or ***acute*** health conditions (conditions or symptoms that are considered short term and can cause sudden and often intense reactions, that will go away after a time).

1.3. GENERAL REQUIREMENTS OF A HAZARD COMMUNICATION PROGRAM

The employer must inspect the worksite to find out if there are hazardous substances then have a written ***HAZARD COMMUNICATION PROGRAMME***. This programme will explain how the employer will make sure you understand about the hazards at the worksite. Some of the things that are needed in this programme are:

- Lists of chemicals ,
- Material Safety Data Sheets (MSDS)
- Labels and warning signs

1.4. CHEMICAL LISTS

Employers must have a complete list of all “hazardous” substances at their worksite.

1.5. LABELS AND WARNING SIGNS

All *containers* (from small bottles to big vessels) must be labeled, tagged, or marked to identify what is in it. The *purpose* of warning signs in the workplace is to tell you *information about the hazards*. – Be sure that you read and understand what warnings the signs communicate.

There are two different types of labeling systems that are used on the big vessels and drums where you work.

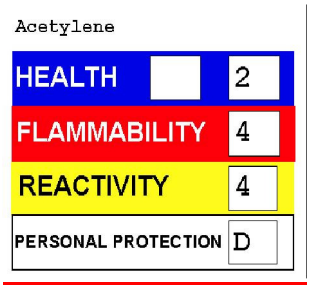
1. The **National Fire Protection Association (NFPA)** labeling system
2. The **Hazardous Materials Identification System (HMIS)**.

Although these are different systems, they have much in common. The purpose for warning signs and the NFPA and the HMIS labels are to give you *hazard information*. There is also now the UN standardised labelling for chemicals called the Global Harmonised System. Under the GHS labels would include signal words, pictograms, and hazard and precautionary statements and safety data sheets would have a standardized format

FIRE HAZARD-Flash Point
4- Below 73F
3 -Below 100F
2 -Below 200 F
1- Above 200F
0- Will Not Bum

HEALTH HAZARD
4- Deadly
3- Extreme Danger
2- Hazardous
1 - Slightly Hazardous
0- Norr

REACTIVITY
4- May Detonate
3 - Shock and Heat May Detonate
2 - Violent Chemical Change
1-Unstable if Heated



SPECIFIC HAZARD
OXY ■ Qxidizer
ACID / Alkali
COR - Corrosive
W- Use NO WATER
Radiation Hazard

N F P A **HMIS**

GHS Pictograms and Hazard Classes		
 • Oxidizers	 • Flammables • Self Reactives • Pyrophorics • Self-Heating • Emits Flammable Gas • Organic Peroxides	 • Explosives • Self Reactives • Organic Peroxides
 • Acute toxicity (severe)	 • Corrosives	 • Gases Under Pressure
 • Carcinogen • Respiratory Sensitizer • Reproductive Toxicity • Target Organ Toxicity • Mutagenicity • Aspiration Toxicity	 • Environmental Toxicity	 • Irritant • Dermal Sensitizer • Acute toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritation

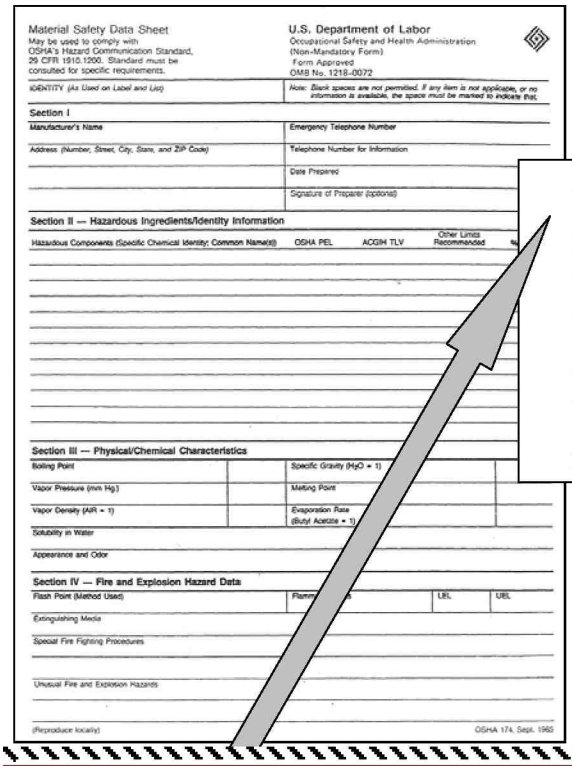
Look at the pictures of these labels. The HMIS and the NFPA labels are alike in many ways: They use the same color codes: **blue=health, red=flammability, yellow=reactivity**. Other things they have in common is the "number" warnings used by both systems. The numbering system ranges from 0 to 4. (Example: On the blue health area, **0 = no health hazard, 1= slight health hazard, 2= moderate health hazard, 4 = very severe or deadly health hazard**.

If a substance is not marked and you are not sure what a substance is, **ask your supervisor.** Sometimes you will need *more* information than can be put on a label or a warning sign. If you need ***more*** information, the best place to look is to the chemical's ***MSDS (Material Safety Data Sheet).***

1.6. INFORMATION FOUND IN A *MSDS*

MSDS means ***Material Safety Data Sheet.*** There must be a MSDS for each chemical. This MSDS is full of important safety information. It was developed by the producer of that chemical. A MSDS for each substance must be located at each worksite and always available. They must always be kept current (up-to-date).

What kind of information can be found in an MSDS?



Material Safety Data Sheet
May be used to comply with OSHA's Hazard Communication Standard, 29 CFR 1910.1200. Standard must be consulted for specific requirements.

U.S. Department of Labor
Occupational Safety and Health Administration
(Non-Mandatory Form)
Form Approved
OMB No. 1218-0072

IDENTITY (As Used on Label and List) — Note: Blank spaces are not permitted. If any item is not applicable, or no information is available, the space must be marked to indicate that.

Section I
Manufacturer's Name | Emergency Telephone Number
Address (Number, Street, City, State, and ZIP Code) | Telephone Number for Information
Date Prepared
Signature of Preparer (optional)

Section II — Hazardous Ingredients/Identity Information
Hazardous Components (Specific Chemical Identity; Common Name(s)) | OSHA PEL | ACGIH TLV | Other Limits Recommended | %

Section III — Physical/Chemical Characteristics
Boiling Point | Specific Gravity (H_2O = 1)
Vapor Pressure (mm Hg.) | Melting Point
Vapor Density (AIR = 1) | Evaporation Rate (Butyl Acetate = 1)
Solubility in Water
Appearance and Odor

Section IV — Fire and Explosion Hazard Data
Flash Point (Method Used) | Flamm... | LEL | UEL
Extinguishing Media
Special Fire Fighting Procedures
Unusual Fire and Explosion Hazards

(Reproduce locally) OSHA 174, Sept. 1985

The box below shows some of information that can be found in a MSDS.

1.) <u>Safe Use & Handling Information</u>
Examples: Permissible Exposure Limits (PEL), Personal Protective Equipment (PPE) requirements, and special handling and storage information

2.) <u>Disposal Information</u>
Examples: Steps for cleaning up spills, and steps for proper disposal of spills.

3.) <u>Emergency Information</u>
Examples: Fire and Explosion Hazard information and the right steps for putting out a fire (if the substance is flammable).

<u>Important Note</u>: PEL (Permissible Exposure Limit) is the measurement US OSHA uses to identify the maximum amount of substance that a person can safely be exposed to at any ***one moment*** in time. Another measure for exposure limits determines how much of an exposure is allowable within a normal 8\ hour workday. This measurement of exposure is called a ***"TWA"*** meaning ***Time-Weighted-Average (of 8hours).***

1.7. HOW INFORMATION OF HAZARDS IS COMMUNICATED

- Another part of the written HAZARD COMMUNICATION PROGRAM will tell how your employer plans to warn you about the hazards that may exist.
- Your employer will warn you about the hazards and how to protect yourself. In fact, one of the main goals of the PLEA 10 Hr course is to provide training which covers the general information you need. After this training, the worksite you go to will train you on the site-specific hazard information that you need to know.
- Additionally, the labels and warning signs will serve as another form of hazard communication.
- Using the site's MSDS book/file will also be a way the employer expects you to learn about the hazards of a specific chemical.

- All of these methods of communication work together to make sure you have information you will need to be safe.

EXAMPLES OF SOME HAZARDOUS CHEMICALS

Each work area has different types of hazardous chemicals. It is important to realize that chemical hazards do not only exist ***inside*** containers, but sometimes chemical hazards exist ***outside*** the container as well. Examples of such chemical hazards would be asbestos, lead or radiation.

Asbestos: Asbestos contains fibers that are very strong and resistant to heat and chemicals. Asbestos was often used to insulate vessels and piping. Asbestos was used in siding, shingles and floor tiles. Under normal conditions, these fibers do not pose a health hazard but they do become hazardous if something happens to cause these fibers to be released into the air.
When released in the air these fibers can cause lung cancer, gastrointestinal cancer, or a lung condition called asbestosis. You must be properly trained and wear the proper PPE if you work where there are dangerous concentrations of asbestos.

Lead: Lead is commonly added to industrial paints because of its corrosive resistance. Just like asbestos, lead does not pose a health hazard under normal conditions. If a painted surface is burned during welding or the paint becomes airborne through sandblasting, grinding or sanding, then the lead can become a health hazard. If lead is ingested (oral) or inhaled (breathing) the exposure can cause health problems in your blood, urinary system and reproductive system. You must be properly trained and wear the proper PPE when lead exposure may occur.

Radiation: The x-raying of equipment, microwaves and lasers all caused radiation. When equipment is being used that emit radiation, it is important that you obey all warning signs and never go through radiation barricades.

If you are doing work that may require you to work near such chemicals where exposure could present physical harm, then you will receive special training on how to take proper precautions against exposure.

SECTION 2




Personal **P**rotective **E**quipment (**PPE)**

"PPE" means Personal Protective Equipment. Before you do any work, you must know what could hurt you. Then you can choose the right PPE for the job. You must understand how the PPE will protect you, and you must know how to inspect it, wear it, and store it.

2.0. Personal Protective Equipment (PPE) is specially designed to protect you…from head-to-toe. Each type of PPE is made to protect you from certain hazards or dangers… ***so you must know what danger or hazard is present before you can choose the proper PPE.***

The information within this section will describe:

> Types of the PPE that you may need to use,

> When PPE must be used, and

> What must you know <u>about</u> the PPE you use

Many Types of PPE are used for Protection from Hazards. You must wear some PPE to enter a worksite…no matter what job you will be doing there. More than likely, you may need to wear safety glasses, hard hat, long pants, long-sleeve shirt, steel-toe shoes, or leather work gloves. Different

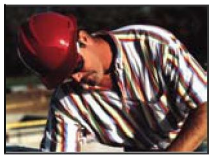
companies will require different PPE.

You may need special PPE for a certain job or work in a certain area in the plant. Some examples of types of special PPE that you may be required to wear are face-shield, ear plugs, respirators, or personal fall protection device. Your employer will make sure you are given this PPE and that you are properly trained to use it.

Before you begin any job, your employer will determine what hazards could harm you while you do work. The employer can then decide what PPE should be used to prevent injury.

If you are ever unsure of what PPE you need, check your work permit. If you are still unsure…ask your supervisor!

2.1. What part(s) of the body are protected by using PPE?



HEAD PROTECTION – All "hardhats" provide protection from injury caused by falling objects. Sometimes "specially designed" hardhats are needed. (Electricians would use a specially designed hardhat that also would help to protect them from electrical shock, for example.)

EYE PROTECTION - Safety glasses must be "ANSI approved" and it will have a "Z- 87 "number stamped on the glasses. Remember, your ***prescription glasses*** are **NOT *safety glasses***.

FACE PROTECTION - A face shield must be used if there is a chance that a hazardous chemical could splash onto your face.

HEARING PROTECTION – Hearing protection must be worn when the noise is so loud that it could hurt your hearing. If you work in noisy areas, you must wear hearing protection. You may need to use earplugs, earmuffs (or the combination of both in extremely noisy environments).

BODY PROTECTION - Long-sleeve shirts and full-length pants help to protect you from burns and spills. Sometimes chemical resistant suits or flame resistant clothing may be required.

FOOT PROTECTION – Safety shoes and boots protect your foot from injuries that would be caused by things dropping on or cutting the foot. A chemical resistant boot may be needed for some jobs.

RESPIRATORY PROTECTION – You must wear respiratory protection if the air in your work area may become hazardous to breathe.

FALL PROTECTION - You must use personal fall protection when you must work six feet or more above the ground. This minimum height may be different at different work locations.

HAND PROTECTION - Rubber gloves protect you from electrical shock. Neoprene or latex gloves protect the hands from certain chemicals. There are many other kinds of gloves. You must know exactly what the dangers are before you can choose the right hand protection.

2.2 When is Personal Protective Equipment Required?

PPE should **not** be used to protect against hazards ***if*** the hazard can be controlled some other way.

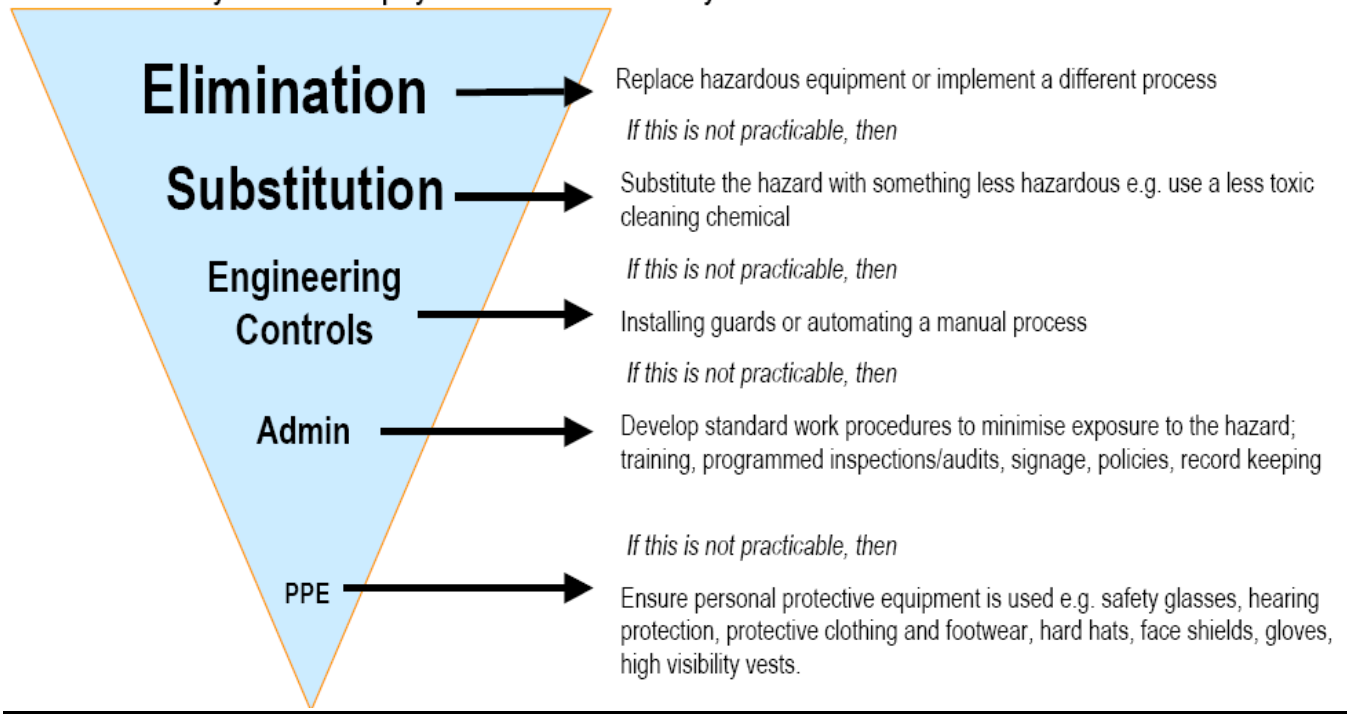
If your PPE does not fit properly or breaks, it will not protect you. You may be exposed to the hazard.

US **OSHA's order for Hazard Control Methods:**

1. Engineering Controls. This is the preferred way.
2. Administrative Controls
3. Personal Protective Equipment (PPE). This is used when the hazard can't be controlled by other ways.

This is why employers must try to get rid of the hazards in the workplace. They do this with ***"Engineering Controls***". Using engineering controls is the *best way to control hazards* in the workplace.

The Hierarchy of Control helps you to choose the best way to fix the issue.



Examples of Engineering Controls

- Using mufflers or buying quieter tools so that you don't have to wear earplugs.
- Installing "guards" on equipment that will prevent you from touching a moving part by mistake

2.3. What You Must Know About Your PPE

If you are required to use any PPE, you will be trained. You will learn how it will protect you, how to wear it, store it, clean it, and inspect it.

You must understand ***all*** of the manufacturers' warnings and limitations of your PPE before you use it.

You must inspect your equipment and ensure it is clean and not damaged -EVERY TIME YOU USE IT.

PPE has adjustable parts and comes in a variety of sizes so that it will be "reasonably" comfortable. You must know how to adjust it so that it fits properly. PPE that does not fit *cannot* protect you the way it should.

NOTE: Do not share your PPE with anyone else.

SCBA (Self-Contained Breathing Air) respirators however ***will be "shared".*** If you must use it, be certain that it has been properly **cleaned and disinfected *before*** you use it.)

If you are not sure what PPE you need for your job, check your work permit. If you still have doubts, check with your supervisor.

SECTION 3

3.0 Respiratory Protection

You need respiratory protection if the air you breathe could hurt you. It is important to remember that before you can choose a respirator, you must understand the danger that is preset…because each respirator was made to protect you from different hazards.

In this section you will learn:

> What you must know and do before you wear a respirator, and

> The basic differences in respirators and how they protect you.

3.1 What Must Occur Before You Use a Respirator?

You must wear a respirator when hazardous air conditions may exist. Three things must take place, however, ***before*** an employee can wear a respirator:

1.) **Medical Evaluation** – You must have a medical evaluation to determine if you had or have a physical condition that would prevent you from safely wearing a type of respirator. You first will answer some questions. Next you will receive a physical examination. Last, you may be given a breathing test.

2.) **Training** – You must receive training before you wear a respirator. The training will describe *when* you will need to use them, *how* it will protect you, and *what* it will protect you from when worn properly. You will learn how to put it on and take it off, check the seals, inspect it, clean it and store it. You will be tested to make sure you understood the training information.

3.) **Fit Test** - A fit test will be performed on each kind of respirator you will need to use. This will tell you what model or size of respirator should be worn and prove that you can get a ***good seal.*** This is done with special tests. If you are not able to get a proper fit, the respirator might allow contaminants to slip in through the cracks when you are wearing your respirator. Remember, beards, facial hair and glasses can interfere with a good face piece seal. Beards are not allowed in most industrial sites.

All three of these steps must be done BEFORE you use a respirator.

3.2 Different Types of Respirators

Hazards in the air can take different forms. The air may be contaminated with:

- ***particulates or dusts***
- ***organic mists or vapours***.
- It could be that the air is ***oxygen deficient***.

You must know which of these dangers is present before you can choose the right respirator. Each hazard requires a different type of respirator.

There are two basic families of breathing protection:

1. AIR-SUPPLIED RESPIRATORS:

HOSE LINE AIR-SUPPLIED RESPIRATOR – This type of respirator uses supplied air that may come from an air compressor that is located where the air is known to be safe or from a

bank of compressed air bottles. The air is sent to the respirator face piece through a hose.

WARNING: This type of unit must ***not*** be used if the air is Immediately Dangerous to Life and Health (IDLH).

SELF-CONTAINED BREATHING APPARATUS (SCBA) - This is another type of supplied air. This type of respirator uses a tank of air that you carry with you. A self-contained breathing unit (SCBA) ***MUST*** be used if the conditions of the air are ***not known*** OR where the air ***is Immediately Dangerous to Life and Health (IDLH).*** Different SCBA's may last between 5 minutes to 45 minutes. Five (5) minute units are only to be used for escape or emergencies.

2. AIR-PURIFYING RESPIRATOR:

This type of respirator uses filters, canisters or cartridges that can remove specific contaminants from the air before it reaches your lungs. This type of respirator is only to be used if the air contaminants have been properly identified and the filter, canister or cartridge is designed to absorb the amount of contaminant in the air. *They must never be used when the air quality is not known and it could be Immediately Dangerous to Life and Health.* The actual type of cartridge, canister or filter that you will use is determined by the type of air hazard that exists. **WARNING**: This type of unit must ***not*** be used if the air is Immediately Dangerous to Life and Health (IDLH).

It is important to know and follow the manufacturers' warnings and limitations for e*ach* respirator you use.

SECTION 4

4.0. HEARING CONSERVATION

We often take our 'hearing' for granted…but if you continue to expose yourself to loud noises, time after time, day after day, eventually, you could lose some of your ability to hear. This will affect the "quality" of your life. You will strain to hear what your grand-daughter is trying to tell you. You will not be able to tell what people are saying in noisy rooms. You won't be able to stop the constant buzzing or ringing in your ears. Your life will be forever changed…and it could have been prevented if you had protected your hearing

Introduction

Repeated exposure to loud noise will eventually cause you to lose some of your ability to hear sound… permanently. The louder the noise is and the longer it lasts, the greater the risk….and once you have damaged your hearing, it can never be repaired. This section will describe:

- What is involved in a Hearing Conservation Program
- How sound effects your hearing
- Hearing Protection Devices

4.1. Hearing Conservation Program

US OSHA has identified how much noise you can safely be exposed to. If the noise you will be exposed to exceeds these safe limits, then your employer must put you in a "hearing conservation program".

A hearing conservation program must include:

- **Checking the noise in your work area** - Periodically, your employer must check work areas for noise levels that may harm you.

> **Hearing Tests -** This is called an audiogram. It is a simple, painless test that can tell how well you hear.

> **Hearing Protection/ Ear Plugs & Ear Muffs -** You must wear some type of hearing protection, either ear plugs, ear muffs, (or a combination of both) if your job exposes you to 85 decibels in an 8-hour TWA or when you must go into any area that is determined to be a high noise area.

> **Training -** You must be trained every year on the proper use and care of each type of hearing protection you will use. You will also learn how too much noise can cause hearing loss and how hearing PPE can protect you.

4.2. How Sound Affects Hearing

The effect noise has on you depends on *how long* you are exposed – *and* how ***loud*** the sound is. Noise is measured in decibels. For example, at 20 decibels, a ticking watch is hard to hear. The 130 to 160 decibels a jet engine produces painful noise and can cause immediate and permanent damage to your ear.

Noise comes from sound waves and is measured in decibels. Several things happen in your ear to change these waves into what we hear as sound. These sound waves move down the ear canal, change into vibrations and finally reach a part of the inner ear called the ***cochlea*** (coke-lee-uh). Tiny hair cells in the cochlea change the vibrations to nerve signals that are sent to the brain. It is these *hair cells* in the cochlea that are *damaged* by excessive noise.

When the hair cells are damaged or die, a condition called ***tinnitus*** may occur. Persons suffering from tinnitus have ringing or buzzing in their ears that never stops. Hearing loss due to excessive noise *cannot be cured*!

Exposure to noise can produce other symptoms besides ringing and buzzing sounds. Another sign or symptom that indicates you are suffering from hearing loss would be “you just can’t hear”.

Even signs or symptoms such as fatigue, elevated blood pressure, stress, tension, and nervousness can be signs of hearing problems.

Examples of Engineering Controls for Noise	Examples of Administrative Controls for Noise
■ Enclosing noisy processes in sound-absorbing rooms ■ Using carpet, resilient flooring and sound-dampening walls ■ Using rubber cushions or cardboard at the end of line chutes ■ Replacing noisy metal parts with quieter plastic or rubber components. ■ Eliminating vibration noise by placing heavy equipment on resilient pads. ■ Ensuring equipment is properly maintained ■ At home, making sure equipment such as chainsaws and lawnmowers have built-in noise reduction systems.	■ Operating noisy machinery on a shift when fewer employees are present ■ Rotating employees out of noisy areas for part of a shift

4.3. Hearing Personal Protective Equipment

Hearing PPE reduces your exposure to harmful noise. While wearing it, you will still be able to hear machine warnings and conversation. If hearing protection is needed, your employer will have the hearing protection devices you will need and will train you on its correct use. Never remove hearing protection while you are still in a high noise area. Always move to a quiet place before removing or adjusting your hearing protection.

Here are the two basic types of hearing protection devices you may use:

Earplugs: Most earplugs are made of soft fiber or foam that conforms to fit the ear canal. They come as pre-molded or can be custom-molded to fit your ears. All types must be placed in the ear canal to seal it off, while leaving enough of the earplug exposed so that it can be easily removed.

Earmuffs: Earmuffs are ear cushions and cups attached to a headband or attached to a hardhat. In order to get a good seal, your entire ear must fit within the cups. Push aside or remove anything that may keep you from getting a good seal: hair, beard, hair clips, and earrings, for example. Glasses or goggles may affect the seal as well.

If the noise hazard is *very* loud, you may need to use both earplugs and earmuffs together. Don't forget that you may be exposed to excessive noise exposure when you are "off the job". You must protect your hearing wherever you are – whether you are at work or at home!

SECTION 5

5.0. ELECTRICAL SAFETY-RELATED WORK PRACTICES FOR NON-QUALIFIED WORKERS

Each year hundreds of workers suffer pain, injury or death from electrical shock and burns. Never work on electrical circuitry if you are not "qualified". Stay a safe distance from overhead power lines and be aware of the dangers of electricity

Introduction

A "qualified" worker is someone who has had training on how to avoid the electrical hazards of working on or near exposed energised circuitry. "Unqualified" workers, such as yourself, have not been trained. The PLEA 10 hour HSE basic awareness training **does not** constitute the required training, therefore on successful completion of this training **does not** make you 'qualified'.

Before you can work on any exposed electrical circuit or part, you must be ***"qualified".***

The purpose of this part of the training is to help **you**, the ***"unqualified"*** **worker,** understand the safe work practices of using portable electrical equipment. It will help you understand the safe work practices for working near energized electrical equipment. In this section you will learn:

> General electrical safety guidelines,

> Causes of electrical accidents,
> Portable electrical equipment safety guidelines, and
> The use of Lockout/Tagout procedures

5.1. General Electrical Safety

Participating in unsafe work practices near electricity can kill you! It may cause a mild shock, a severe shock, or even a deadly shock.

It is important to understand the "***safe* work practices**" that must be used when working near electricity or using portable electrical equipment. Here are some general safe work practices that should be followed:

- **Always** have good lighting whenever you are operating electrical equipment.

-**Always** handle material or equipment that can conduct electricity so that you (and your material or equipment) will not come in contact with exposed "energized" parts or circuits, including overhead lines.

5.2. What is the Difference between "De-Energized" & "Energized" Equipment?

De-Energized Equipment is equipment in which the circuits have been disconnected from all their power sources. Sometimes referred to as being 'Dead'

Energized Equipment is equipment that has exposed, live parts of circuits that may be directly contacted, or contacted by tools or materials…and can present electrical hazards. Sometimes referred to as 'Live'.

- Never reach 'blindly' into areas that may contain energized parts. (You must be able to ***see*** what you are trying to touch at all times!)

-**Always** stay **<u>at least 10 feet</u>** from electric lines with voltages of 50 kilovolts (50, 000 volts) or less. (This 10 foot rule is for "unqualified" workers and *includes* all the material or tools the employee is holding or carrying! This 10 foot rule also *includes* any part of a vehicle the employee may be operating such as a man-lift!)

- **Always** use a ladder made of non-conductive material (material that does not conduct electricity) or have non-conductive side rails if you are working *near* electrical equipment.

NOTE: *Non-conductive* material means that electricity *<u>cannot</u>* flow through the material. Fiberglass or dry wood are non-conductive materials.

It is important to *inspect* your ladder each time you use it, not only to see that it is in good working order, but to insure that it is CLEAN. It must be free of dirt, oil, and moisture because these materials *are conductive…*and using a ladder like this is an unsafe work practice that could cause you to be electrocuted.

5.3. Causes of Electrical Accidents

Electrical accidents can be prevented. Electrical accidents are usually caused by working with faulty or *unsafe equipment*, working in *unsafe environments*, or using *unsafe work practices*. <u>Unsafe work practices are responsible for over 75% of all occupational fatalities involving electricity!</u>

5.4. Portable Electrical Equipment Safety

Using safe work practices when operating portable electrical equipment can protect you from electrical hazards.

All portable electrical tools must have a grounding prong or must be labeled as doubled insulated. Make sure that any extension cords you use properly fit the plug for the electrical equipment' you're using. ***<u>Never</u>*** cut off the grounding pin or earth pin on the plug. ***<u>Never</u>*** raise,

lower or carry portable electrical equipment by its cord.

WARNING: All electrical equipment must be grounded. Grounded equipment is permanently and continuously connected to the earth so that uncontrolled electrical discharge is unlikely to occur.

Why is it important to inspect your portable equipment at the **beginning of your work shift** and **each time** you use the equipment?

Inspecting your equipment can prevent you from being shocked. Look for visible wear, frays, breaks, or other damage to the insulation or outer jacket of the cord. Make sure the grounding prong is in place if the tool in not labeled 'double insulated'. If you find something damaged, connect a tag to it that says, "Damaged: Do Not Use!" and notify the appropriate persons or your supervisor. . **Never** use portable electrical equipment that is damaged.

Always use a Ground Fault Circuit Interrupter (GFCI). A GFCI will instantly disconnect a circuit when an electrical short occurs. A GFCI can protect you from serious injury from electrical shock. Some types of GFCI are designed for permanent installations while others are portable.

A hot work permit is required if the portable electrical equipment you will use is capable of sparking or could produce enough heat to ignite flammable or ignitable materials or atmosphere that may be present in the area.

NOTE: A **hot work permit** is the type of permit that is required whenever a spark or heat could be generated during the job by welding, brazing, soldering, paint stripping, metal grinding where sparks could be generated or unprotected electric lights in hazardous atmospheres etc.

Sometimes you may need to work in an area where flammable gases could build up. An explosion and/or fire could then occur if something created a spark or enough heat to ignite

these vapours. When the work area could have such hazards, only **specially-designed** electrical equipment can be used. This equipment is "intrinsically safe" electrical equipment – equipment that would not spark or produce enough heat to cause a fire even in a flammable atmosphere.

5.5. Lockout-Tagout Procedures

When working on or near energized parts, just turning off a switch or pulling a breaker is not enough to ensure it will not be inadvertently re-energised. The power to the live parts or circuits must also be "***locked out and tagged out".*** Using lockout/tagout (LOTO) procedures is the *best* way you can prevent the risk of electrical hazards when you work on or near energized parts. Lockout/tagout procedures are not just used to protect persons from the risk of electrical hazards. Lockout/tagout procedures are used to prevent injury from **ALL** types of energy. (examples of some other types of energy could include pneumatic, hydraulic, thermal, charged springs , etc…)

Only persons who are **trained**, **qualified** and **authorized** can perform a lockout/tagout procedure. *Only* the authorized person who put on the lock can take it off (or a supervisor in special circumstances).

Trained: "Training" occurs when personnel receive the proper knowledge and skills for safely performing a particular job or task.

Qualified: A worker is "qualified" when he/she possesses a recognized degree, certificate, or professional standing or when they have extensive knowledge and accompanied by training and experience that demonstrate his/her ability.

Authorised: The worker is then "authorized" by supervisory personnel when this supervisor(s) has acceptable knowledge that the worker is properly trained and qualified and can perform the task safely. This authorization is usually validated with the supervisor's personal signature, such as within a work permit.

5.6. The basic steps of performing lockout/tagout procedure are as follows:

Before work is done,

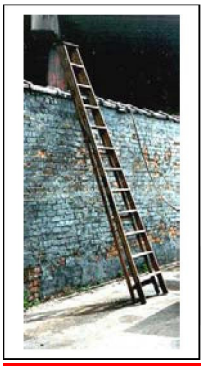
1. **Locate** and identify ***all*** energy sources and their isolating devices. (Equipment will usually involve at *least* two types of energy.)
2. **Notify all** authorized and affected workers. (People who work in the area should be told about the work so they will not disturb anything by mistake.)
3. **Barricade** the work area and provide sufficient warnings signs. (If signs and barricades do not provide sufficient warning and protection, an attendant must be stationed to prevent and warn others away from the area.)
4. **Shut down** the equipment. (Shut down equipment at the local start/stop switch.)
5. **Isolate** the equipment from **all** energy sources. (All sources of energy must be de-energized and disconnected. Circuit control devices, such as ON-OFF buttons, selector switches, and interlocks, must never be used as the only means of de-energizing circuits or equipment.)
6. **Purge** all hidden or trapped energy.
7. **Apply** (put on) locks and tags on each device that was used to isolate the energy from its source. **Remember**: locks can only be put on by persons who are **authorised** to do so and can only be removed by the person who put it on (or supervisor in special circumstances.)
8. **Verify** (recheck to make sure) all energy has been isolated.

After work is complete:

9. **Remove** all tools and material from work area.
10. **Visually inspect** the area and ensure that all employees are clear of the area.
11. **Notify all** authorised and affected workers that equipment is being put back into service and all energy sources will be re-established.
12. **Remove all** locks and tags. This must be done by authorised personnel before re-energising equipment.

Verify that the equipment can operate properly after energy is restored if possible

SECTION



6.0. ELEVATED WORK

*Falls are the **second** leading cause of accidental death in general industry. Most of these deaths could be prevented by using safe fall protection practices and by using the proper PPE.*

Introduction

The information in this section covers the following topics:

- Elevated Work Hazard Awareness,
- Types of fall protection systems,
- Personal fall arrest systems,
- Scaffold safety, and
- Ladder safety

6.1. Elevated Work Hazard Awareness

If you must work in high places, you must be trained so that you will understand the dangers of elevated work, and know how to protect yourself from falls. This will include training on the personal fall arrest systems you may be using.

6.2. Types of Primary Fall Protection Systems

Your employer (not the client your company is working for) is responsible for providing all of the protection systems that are needed to protect you when you are working 6 feet or more above the ground (grade) Note: this height limit may vary from company to company as such you should be familiar with the requirements of the client. Some sites may have stricter requirements so be sure and ask your supervisor. Some fall protection systems your employer may use are:

PERSONAL FALL ARREST SYSTEMS: A *personal* fall arrest system provides you with the most protection from falls…because it was designed to protect YOU. (More information on personal fall arrest systems is in the section below, titled Personal Fall Arrest Systems.)

SCAFFOLDS: Scaffolds provide you a safer and more comfortable working surface than a ladder. They are built according to strict safety standards. Some of these standards will be explained in the section below, Scaffold Safety.

GUARDRAILS SYSTEMS: You see this system at work *everywhere* you see a balcony. This is the rail that must exist above the edge of platforms. This “guard” rail will keep you from falling off the edge of a platform. The top of this rail must be 42 inches high above the platform.

SAFETY NETS: Safety nets are effective types of fall protection when work is being done above walking/working surfaces where something could be dropped. These nets can

prevent material from falling on persons working below when the area can't be barricaded and protected.

6.3. Personal Fall Arrest Systems

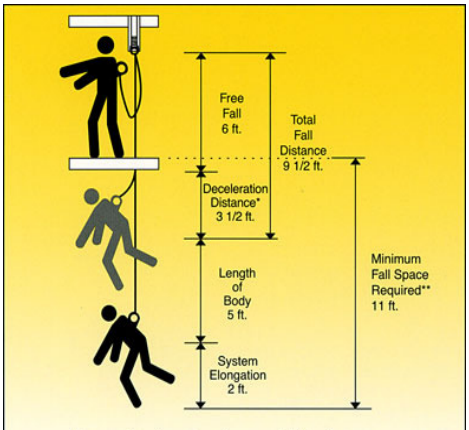
Since 1998 in the USA, body belts are no longer acceptable as part of a personal fall arrest system because they can hurt you (the body belt only had a belt around the waist… not the chest and shoulders, as fall protection devices do now). Today, safe fall protection systems are designed to more effectively distribute the impact of a fall. Like all other PPE, you must inspect your personal fall arrest system prior to each use. You must look for any visual signs of any significant defect: such as tears, cuts, abrasions, undue stretching, mold, or anything that might cause the system to fail.

Personal fall protection systems consist of three main parts:

1.) <u>Body Harness</u>: This is the part of the personal fall protection system that goes around the torso (shoulders to hips) of your body. If you were to fall, the impact of the fall is well distributed so that you won't be injured if you were to fall.

2.) <u>Anchor</u>: This is the overhead structure that you will connect your lifeline to. This structure must be able to handle the intense force that occurs during a fall. The anchor point must be able to handle 5000 lbs. of weight per person that attaches to this point.

3.) <u>Life Line</u>: The life line is what connects the harness to the anchor point and is designed to catch you if you do fall. This life line must be attached to the anchor point so that a person *cannot fall <u>more than</u> six feet* (called the "***<u>free-fall rule</u>***"). It is important to remember that your lifeline must *<u>never</u>* be used to lift or tie off material. -It should ONLY be used to protect <u>YOU</u>!



6.4. Scaffold Safety

Scaffolds must be built under the supervision of a qualified person using a trained crew. Scaffolds must be designed to support at least *4 times* their anticipated load. All scaffold equipment must be carefully inspected every day to make sure that it is in good condition.

When a ladder is used, the side rails of the ladder must extend at least 36 inches (3 feet) above the work platform.

Every scaffold must be inspected by the scaffold builder before it can be used. Scaffolds that are inspected and safe are tagged with either a **green** or **yellow** tag. If the scaffold has a yellow tag, employees must be aware of the warnings or limitations before using that scaffold. Scaffolds that have a **red** tag must ***not*** be used.

Always do a visual inspection (look it over carefully) before you climb onto a scaffold. If you find something wrong with the scaffold, report it immediately and do not climb onto the scaffold until it is corrected.

6.5. Ladder Safety

The following requirements for ladder safety apply to all types of ladders, including those that are job-made ladders. There are three general types of ladders:

1. **Self-supporting portable ladders (**normally called a “step ladder”),
2. **non-self-supporting portable ladders** (normally called an “extension ladder”)
3. **fixed ladder** (a permanent ladder).

Figure 2a Incorrect - steps side-on to work activity

Here are a few of the requirements for these ladders:

- Both the self-supporting and the non self-supporting ladders must be able to handle at least 4 times their anticipated load.
- When portable ladders are used to get to an upper walking/working surface, the ladder side rails must extend at least 3-feet above the upper surface

Figure 2b Correct - steps facing work activity

- Ladders must be secured before working from them: If the ladder has adjustable feet, they must be positioned properly to ensure that they are on an even, flat, hard surface. The ladder must be tied-off securely at the top.

- You should maintain a three-point contact with the ladder at all times (that is, you should have two hands and one foot or two feet and one hand in contact with the ladder .The top step of a step ladder must never be used as a "step". Where you can maintain **three points of contact (hands and feet) at the working position.** On a ladder where you cannot maintain a handhold, other than for a brief period of time, other measures will be needed to prevent a fall or reduce the consequences of one. On stepladders where a handhold is not practicable a risk assessment will have to justify whether it is safe or not.

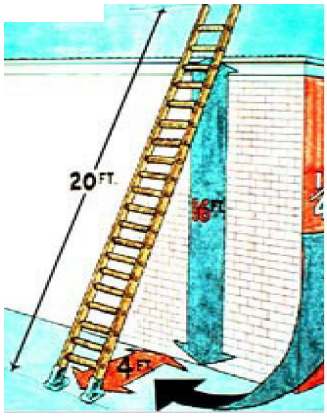
- Always face the ladder when ascending or descending the ladder. Never carry tools or material up a ladder that might drop or cause you to lose your balance. Instead, use a hand-line (but not any part of your personal fall arrest system) to lift your tools to where the work is.

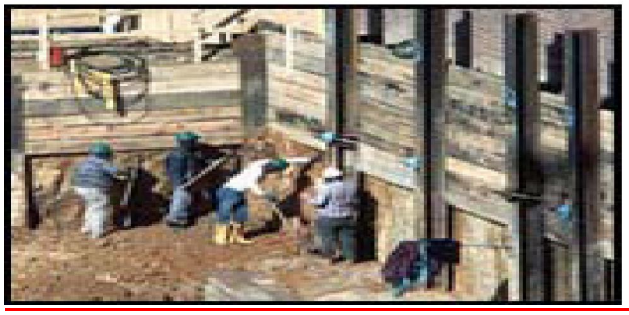
- Ladders shall be inspected periodically by the employer and by the user <u>each</u> time it will be used.

- Keep ladders free of oil, grease, and other slipping hazards.

- Look for such things as broken or missing rungs, split rails, corroded parts, etc. If any defect is identified, the ladder must be taken out of service and tagged with "**DO NOT USE**" or similar language until repaired.

- When putting a ladder in place, use an angle where the horizontal distance from the base of the wall to the foot of the ladder is ¼ the working height (height of the wall).





SECTION 7

7.0. Excavations, Trenching & Shoring

An excavation is any man-made cut, cavity, trench or depression in the earth's surface caused by the removal of earth. The potential hazards of excavating are among the most hazardous construction operations. This type of construction can be a safe operation when workers are aware of the hazards and an effective Safety and Health Programme is used.

Introduction

There are special potential hazards that are associated with excavations, trenching and shoring. Special precautions must always be taken to make sure that cave-ins do not occur. Special attention to the type of soil, stability of adjacent rock, as well as other activities that might change the stability of the excavation must always be taken into account.

7.1. Excavations

Excavations are any man-made cut, cavity, trench, or depression in the earth surface, formed by earth removal. Safety procedures apply to **all** open excavations that are made in the ground and include trenching.

7.2. Trenching

A trench is a particular type of excavation -where the excavation is deeper than it is wide (it also must be less than 15 feet wide).

7.3. Shoring

Shoring is a structure such as a metallic, hydraulic, mechanical or lumber system that supports the sides of an excavation. It is designed to prevent cave-ins

7.4. Hazards

There are certain potential hazards that exist with excavations, trenching and shoring. There are atmosphere-related dangers that would include low oxygen levels or the existence of flammables or combustible or toxic gases.

Other hazards occur from instability of adjacent rock, adjacent activities, loose rock or potential water hazards. When working in any excavation you must be alert to any changing condition.

Excavation Protective Systems (such as) are required for all excavations except those that are less than 5 feet deep (that do not have any cave-in hazards or unstable rock. Excavation Protective systems include shielding, shoring, sloping or any combination of these safeguards.

A “means of egress” (escape) is required for trench excavations that are four feet or more in depth. Examples of approved means of egress could include stairs, ladders or ramps. Ways to get out of an excavation must be no more than 25 feet apart.

SECTION 8

8.0. PROCESS SAFETY MANAGEMENT (PSM)

*The primary goal of the Process Safety Management of highly hazardous chemicals is to **prevent unwanted releases of hazardous chemicals**. Extra attention must be given to chemicals in locations that would cause the greatest danger to employees or the environment. This is done by evaluating the major process hazards (MPH).*

Introduction

Process Safety Management requires thinking ahead to determine what *could* go wrong and then doing something to control those problems that could happen as a result of failures in process, procedures or equipment. In this way, potential hazards are identified and prevented before the work begins. -

Process Safety Management pays special attention to highly hazardous chemicals that could cause serious injury to people or our environment.

All applicable plant sites must develop an effective process safety management program. The information below describes the things that make up a *PSM program.*

8.1. 14 Basic Elements of Process Safety Management

1. **Employee Involvement in Process Safety Management** – Employees must be trained and informed so they know how to prevent exposure to, or protect themselves from, the hazards of chemicals.

2. **Process Safety Information** – The employer must compile complete and accurate written information concerning process chemicals, process technology, and process equipment. This is essential to an effective process safety management program and to process hazard analysis (PHA).

3. **Process Hazard Analysis (PHA)** – This is an evaluation of the potential hazards of a process or job and is one of the most important elements of a successful process safety management program. A designated team works together to perform a PHA.

4. **Operating Procedures and Practices** – Operating procedures tell you how to safely perform a job. It tells the data to be recorded, operating conditions to be maintained, samples to be collected and evaluated, and the safety and health precautions that must be taken *all the times*.

5. **Employee Training** – All employees, including maintenance and contractor employees who could be impacted by the hazards of chemicals must be trained so that they know the hazards and how to protect themselves, their fellow employees and the citizens of nearby communities.

6. **Contractors** – Employees must be hired who can accomplish their job tasks without compromising the safety and health of that employee or others.

7. **Pre-Startup Safety** – All important elements such as start-up, shut-down and operating procedures, including emergency procedures must be in place and the operating staff trained before a startup. The development of P&IDs (Piping & Instrument Diagrams) must be available prior to startup for training assistance.

8. **Mechanical Integrity** – An employer must operate and maintain the process in a safe manner and process equipment as designed in order to ensure safety. Equipment needs to be replaced when it is worn out.

9. **Work Permits** – It is important too that non-routine work be well communicated, -not only to those who will *do* the work, but to any persons that could be affected by the work. Work permits give *authorization* to workers to do special tasks –but only after many things are in place that can ensure the safety of that work. Non-routine work *cannot* be done without a signed, written permit that has all the special precautions addressed within it. Examples of some of the different types of work permits or procedures you may need for your job are:

   LINE BREAKING PROCEDURES – These procedures will identify what steps must have occurred before the line is opened that will assure that the line does not have pressure on it and that the contents in the line cannot be released while the work is being done.

   LOCKOUT/TAGOUT PROCEDURES – (This refers to the basic steps of a typical lockout/tagout procedure on page 30in this study guide)

   COLD WORK PERMITS – This type of permit is used for work which typically does not create any serious safety concerns associated with the job: it will not produce heat or a spark and the work is to be done in normal work areas.

CONFINED SPACE ENTRY PERMITS – This permit has special requirements that must be in place before anyone can enter a confined space. This includes air quality testing and emergency rescue needs.

HOT WORK PERMITS – This permit is used when the work that will be done or the tools and equipment used to do the work could produce enough heat or a spark to ignite the materials around it. This permit requires the results of the gas test that proves that this work can be safely done as well as what fire extinguishing equipment must be on hand during the work. Some other requirements are time and date the work can be done, description of the object to be worked on, and what emergency equipment should be on hand.

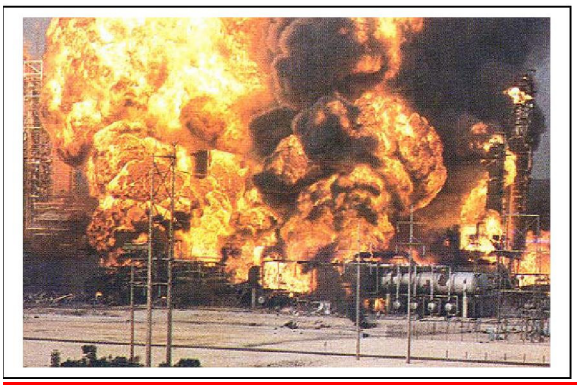
10. **Managing Change** – The management of change covers such areas as changes in process technology, changes in instrumentation, or changes in the equipment itself. Not properly managing change has been a primary cause of many accidents.

11. **Investigation of Incidents** – The investigation of an incident or near-miss is the only way to determine the underlying causes of incidents and then determine any steps that could prevent the same or similar events from reoccurring in the future. The focus of all investigations should be to obtain facts – and not to place blame. For this purpose, ALL accidents, injuries, and incidents (even "near-miss" incidents) must be reported to the proper personnel.

12. **Emergency Preparedness** – Each employer must have an **Emergency Action Plan** that lays out what action employees are to take should there be a release of hazardous chemicals. This plan tells how personnel will evacuate if there is a release of hazardous chemicals. Employees must be trained so they will know what to do if such a situation occurs.

13. **Compliance Audits** – The employer must have trained personnel to audit the site's process safety management program. This audit is to ensure that the site is doing what they say they will do, and also to help determine if what they are doing meets the requirements of what it was designed to do.

14. **Trade Secrets –** The employer must make all information necessary to comply with the standard available to those persons responsible for compiling the process safety information.



SECTION 9

9.0 EMERGENCY RESPONSE

As you learned in the previous section, it is important that an employer pre-identify how emergencies will be handled at each site. Then they must communicate those steps and procedures that they expect all personnel to follow. When you start work at a new site it will be important that you learn everything your employer expects you to do in every type of emergency situation.

Introduction

You must know and follow all the site rules you will be working at. Each plant or facility will have its own rules for security and safety and you will receive training to learn what those rules are before you will be allowed to work at that site. Although this course cannot tell you the specific rules for the site where you will be working, it can tell you some of the basic rules that apply to every site. This section will include information on:

- General site policies
- Operating motorized equipment
- Work permits
- Reporting an emergency situation, and
- Emergency action plans

9.1. General Site Policies

Only employees with proper identification (and clothing) will be allowed into a facility.

NEVER allow anyone to use your ID badge.

You must learn the plant site policies where you will work. You will be given that information before you enter the plant to start your work. When you enter the plant's property, you are required to follow its policies and rules. This will include the parking area where you park your vehicle while you are working.

There may be restricted areas within a site where carrying cellular phones and pagers are prohibited.

Remember that cameras are allowed only with special permission by the site "owner".

9.2. Operating Motorized Equipment

You must have permission to operate any motorized equipment (even your own vehicle).

Remember, pedestrians (people on foot), bicycles, and emergency equipment have the right of way **at some** facilities/plants or companies. Remember: vehicles must stop not only for pedestrians, but they must also stop when they are directed by a flag person.

a. Cranes

Cranes can never be operated in a position where their boom or line can come within 15 feet of any overhead power line without special approval.

Cranes must never allow their load to swing over people. People must not walk under suspended loads.

The load being handled by a crane must be controlled by the use of a tag-line.

Crane operators can only take directions from a designated spotter. The spotter can verbally communicate or use hand signals to direct the crane operations.

b. Forklifts

Approximately 100 workers are killed each year in a forklift accident in the USA. Many of these deaths are caused when the forklift overturns. Another major cause of death is because pedestrians are struck and killed by forklifts.

9.3. Work Permits

Plant facilities utilize permit programs to assure that all the preliminary requirements are met and permits issued before a job can begin.

Examples of some of the types of permits that are used at worksites are Hot Work, Confined Space Entry, Safe Work, Line Entry/Breaking, and Lockout/Tagout permits.

9.4. Reporting an Emergency Situation

ALL accidents, incidents and injuries, even the smallest, must be reported so that they can be investigated. These reports can prevent a minor accident from being repeated, or even worse, becoming a more serious accident in the future. (Example: Suppose you have tripped over a piece of broken concrete and sprained or bruised your foot. Reporting this injury may prevent someone from tripping on the same concrete and perhaps breaking their foot.)

9.5. Fire Basics

Fire is a chemical reaction involving oxidation. There are three things that are required in a fire: heat, fuel, and oxygen. If any of those three elements can be eliminated, the chemical chain reaction is stopped, and the fire will go out. Therefore, in order to put out a fire, you must cool the heat, remove the oxygen, or eliminate the fuel. There are four classes of fire based on the US NFPA:

CLASS A - This fire is made of *ordinary combustibles.* (Wood, paper, cloth, rubber, and some plastics.)
Generally speaking, the CLASS A fire is the only fire where water should be used to extinguish the fire.

CLASS B - This fire is made of flammable or combustible liquids and gases. (Gasoline, kerosene, paint, paint thinners, propane, and butane, for example)

CLASS C - This fire involves energized electrical equipment. (Electrical appliances, switches, panel boxes, electric motors and power tools, for example).

CLASS D - This fire would involve certain combustible metals. These metals can burn at a high

temperature and produce an extremely hot fire. (Magnesium, titanium, potassium and sodium, for example

Flammable

Liquids

Electrical

Equipment

You should only fight a fire if you are trained and know when and how to fight the fire. If a fire breaks out, report it immediately. Even if you are properly trained, there are still some situations where you should NOT try to fight a fire:

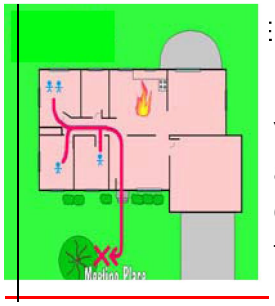
- Never fight a fire if it is too large.
- Never fight a fire if it is spreading too quickly
- Never fight a fire if the fire can block your only escape route.
- Never fight a fire if you do not have adequate fire-fighting equipment.

Steps for reporting Emergencies

1. Find the closest phone and dial the emergency number.
2. Tell them your name (and ID number if applicable).
3. Give them a brief description of the emergency, including the exact location of the emergency.
4. Answer any questions.
5. Do not hang up until they hang up.

9.6Emergency Action Plans

You have already learned that Emergency Action Plans play an important role in Process Safety Management (PSM). Your employer will inform you of the proper steps you are to take in emergency situations. You should learn what you are expected to do in all emergency situations



You need to recognize all of the site's different emergency alarms. If you hear an alarm, you should identify what kind of alarm it is (and what it means) and evacuate if necessary. If you are injured on the job, if minor, properly report the injury and then seek medical attention.

You have completed reading this Study Guide. You should now be more familiar with safety terms you will need to understand on the job. This study guide has additionally provided you with important safety information and safe work practices you will be expected to follow when you are at work. If you have any questions about the information you have read, ask your PLEA trainer. While it is the employers' responsibility to teach you what you need to know and to be safe on the job, it is YOUR responsibility to use this knowledge. You must take an active role in ensuring your own safety and the safety of your fellow workers…everyday…every minute of the day!