

HIGH-IMPACT PERSONAL PROTECTIVE EQUIPMENT

This easy-to-use Leader's Guide is provided to assist in conducting a successful presentation. Featured are:

INTRODUCTION: A brief description of the program and the subject that it addresses.

PROGRAM OUTLINE: Summarizes the program content. If the program outline is discussed before the video is presented, the entire program will be more meaningful and successful.

PREPARING FOR AND CONDUCTING THE PRESENTATION: These sections will help you set up the training environment, help you relate the program to site-specific incidents, and provide program objectives for focusing your presentation.

REVIEW QUESTIONS AND ANSWERS: Questions may be copied and given to participants to document how well they understood the information that was presented. Answers to the review questions are provided separately.

ATTENDANCE RECORD: Document the date of your presentation as well as identify the program participants. The attendance record may be copied as needed.

INTRODUCTION

Personal Protective Equipment is the last line of defense between workplace hazards and us that cannot be controlled through engineering or other means. Yet each year hundreds of thousands of on-the-job injuries occur as a direct result of employees neglecting to wear the proper personal protection.

There are many different excuses that employees offer for failing to use their PPE, but the accidents that result from not wearing protective equipment makes one thing perfectly clear: each time we make a conscious decision not to use PPE, we are neglecting our personal safety and setting ourselves up for an accident that could involve serious injury or death.

This program features eight powerful accident reenactments* that will show viewers the tragic consequences of not wearing proper PPE in all required situations. It makes the point that the few short seconds it takes employees to put on their Personal Protective Equipment are worth lifetimes free of pain and disability. Use of eye protection, hard hats, hand protection, respirators, special protective clothing, hearing protection and fall protection are all topics covered in this dynamic video.

***Accidents re-created in this program are based on OSHA investigations or company records. Details have been changed in the interest of confidentiality and instructional clarity.**

PROGRAM OUTLINE

PURPOSE OF PPE

- For the safety of all employees, the company has determined the hazards existing in the plant that require Personal Protective Equipment.
- This equipment doesn't take the place of safe work practices or proper work procedures, but it works in conjunction with them to provide the maximum safety benefits.
- PPE includes any clothing and other work accessories that have been designed to create a barrier against workplace hazards.
- You must understand that PPE does not eliminate the hazard. If the equipment fails, you can be exposed to hazards that could jeopardize your life.

- Before performing any task that requires PPE, you must be trained and be able to demonstrate that you have a good understanding of its use and the situations in which it is required.

HARD HATS

- Protective helmets must be worn any time there is a potential for head injury from falling or moving objects, or when working near exposed electrical lines.
- Approved hard hats are tested to withstand a 40 foot-pound impact, which is the equivalent of a 2 pound hammer falling about 20 feet.
- The hat consists of two parts: the outer shell and an inner suspension system. The suspension system is responsible for most of the shock absorption from a striking object.
- Always wear the hat correctly. Turning the hat backwards severely reduces its effectiveness.
- Before wearing the hat, inspect the shell for discoloration, chalky or bleached areas and hair line cracks. Also check the condition of the suspension system.
- Perspiration deteriorates some materials. If any part is frayed or worn, replace it immediately.

FACE & EYE PROTECTION

- Safety glasses are designed to provide a minimum of protection. As hazards become greater or we work more closely to them, we need a higher level of protection.
- Eyecup side shields and complete face protection are required for jobs where grinding, chipping and sanding are performed.
- These operations produce chips or flying particles and eye protection alone is not sufficient.
- To protect the eyes from acids and chemicals, tight-fitting goggles under a face shield are necessary.
- Some face shields have a return at the chin to prevent splashes from entering the face area.
- Welding helmets not only protect against heat and molten metal splashes, but also provide protection against ultraviolet light and some infrared bands.
- Interchangeable lenses are used and selected for welding helmets according to the intensity of the light resulting from the welding operation.
- Select the darkest shade that allows adequate vision for the job. Be aware that lenses lose their effectiveness over time with use and need to be changed periodically.

SPECIAL PROTECTIVE CLOTHING

- Molten metal, fire, corrosive chemicals, hot or cold liquids and other workplace hazards require the wear of special protective clothing.
- When working around molten metal or hot chemicals, wearing aluminized fabrics with insulated liners provide protection from the extreme heat.
- When working around open flames or sparks, flame retardant clothing is required.
- Special protectors such as leather aprons protect against hazards posed by heavy, sharp or rough materials.

HAND PROTECTION

- Hands and fingers are the most vulnerable part of the body. It is important to understand the nature of the hazards to the hands and choose the correct protection for the intended task.
- Remember that no one glove will protect you against all hazards.
- Gloves made from cotton are the most common type, but only offer a minimum of protection against some hazards.
- Cut-resistant gloves should be worn when you are working with sharp objects or sharp tools.
- Gloves that provide thermal protection are required for work with hot or cold metal, frozen food and liquid gases.
- Protection from electrical hazards is provided by rubber gloves.
- When working with a chemical, check the MSDS or ask your supervisor which glove to use for that specific substance.
- Protective creams may be applied to your hands and used under your work gloves for additional protection.
- It is important to make the correct choice of creams. Oil-based creams repel water-soluble liquids and water-based creams repel oily substances.

FALL PROTECTION

- Each year falls result in a large number of injuries that could have been prevented if the victim had been using fall protection.
- Some elements of a fall protection system include lifelines that are attached to building structures and tie-off points for our lanyards.
- The most effective piece of fall protection, when correctly secured, is the full body harness.
- A properly adjusted full body harness will spread the shock load over your body in the event of a fall. The shock absorber will lower you to a safe, slow stop.
- A complete fall protection system is comprised of the harness, a shock absorbing device and a proper tie-off point.

RESPIRATOR USE

- Respirators are designed to protect us against specific atmospheric hazards when other protection is inadequate or unavailable.
- Before using a respirator, you must be trained and authorized. Before training, you must exhibit the potential ability to use this equipment.
- Understanding the safe use of respirators requires on-the-job training in the type of respirator you will be using: a dust mask, air-supplied respirator or an air-purifying respirator.
- Air-supplied respirators get their air from an air compressor or a cylinder of air.

- Air purifying units are fitted with disposable cartridges. Check your MSDS for the proper cartridge for your job.

OTHER SAFETY TIPS

- Noise is an unseen hazard that many people don't take seriously. Hearing protection must be worn in areas where noise reaches hazardous levels to prevent permanent hearing loss.
- Safety shoes with steel toes should be worn in work environments where heavy or sharp materials have the potential to injure our toes or feet.

REQUIREMENTS OF THOSE USING PPE

- Before using any type of PPE, you must make sure you know the following:
 - ✓When PPE is necessary;
 - ✓Which piece of equipment is required for your job;
 - ✓How to wear and adjust your PPE;
 - ✓The limitations of the equipment;
 - ✓How to care and maintain the equipment; and
 - ✓The length of the PPE's useful life and how to dispose of it properly.

ACCIDENTS AND THEIR SAFETY LESSONS

Accident 1: Maintenance Worker Suffers Traumatic Head Injury After Removing Hardhat

Maintenance crewmembers Roger Goodwin and Jack Logan were taking a break from their work on the main separator unit. After descending to the floor by ladder, Roger went to get drinks while Jack was talking to George. Jack removed his hard hat and began to wipe away perspiration from his forehead. Another crewmember that had remained above at the separator unit accidentally dropped his wrench over the railing. The wrench fell some 40 feet in the air and struck Jack and embedded in his head.

Safety Lessons:

- 1) Always keep safety as your number one priority in every task.*
- 2) Be sure you are in a safe area before removing your PPE.*

Accident 2: Acid Causes Horrific Facial Burns to Worker Wearing No Face Shield

Russ Gantt and Everett Lentz were unloading a tank car of acid when they noticed a leaking gasket. Everett told Russ to give him his adjustable wrench and to retrieve his face shield from the truck below. When Russ began to back down the steps to get the face shield, Everett proceeded to tighten the leaking gasket. The gasket unexpectedly blew out as he was tightening it, steaming acid sprayed out into Everett's face. As he tried to run blindly to the eye wash station, he fell from the platform.

Safety Lessons:

- 1) Don't let impatience steal your safety.*
- 2) Everett knew that a face shield was required; he just didn't wait for it. He knew better, he just didn't do better!*

Accident 3: Failure to Wear Hearing Protection Results in Gradual, Permanent Hearing Loss

For his entire working life, Ralph Mardasovic was employed in a noisy manufacturing environment where hearing protection was required. Although he was constantly reminded by warning signs and his supervisor to wear his earplugs, Ralph always assumed the noise wouldn't affect his hearing. Over the course of time, he had trouble understanding what others said. When he finally sought medical attention for his condition, he discovered that exposure to the harmful noise had caused permanent hearing loss.

Safety Lessons:

- 1) PPE, when properly used, protects us from dangerous hazards.*
- 2) Always follow safety rules; you will be the winner.*

Accident 4: Chemical Causes Extensive Facial and Bodily Burns to Worker Not Wearing Required Hot Suit

On a hot August day, Ed Dooly prepared to unload a chemical from a truck that had just arrived in his receiving department. Thinking how uncomfortable wearing the hot suit would be due to the heat, he decided to unload the liquid without putting on the suit. After loading the chemical, he decided to complete the job by removing the hose. He forgot that he hadn't shut off the pump. When he broke the hose loose, the hot chemical sprayed out all over his face and body.

Safety Lessons:

- 1) Don't let temporary discomfort result in permanent injury.*
- 2) Always follow approved job procedures.*
- 3) Always think about safety in everything you do!*

Accident 5: Shop Technician Severely Cuts Unprotected Hand on Thin Piece of Sheet Metal

Henry Metz, a maintenance shop technician, was hastily working to complete his shift so he and a co-worker could go fishing. As he prepared to leave, his supervisor requested that he cut a manifold cover before the next shift arrived. Obviously aggravated, he hurriedly yanked the sheet. When the sheet

became jammed, his unprotected hand continued sliding across the steel. His hand was sliced open and bled profusely.

Safety Lessons:

- 1) *Don't let time or emotions defeat your sense of personal safety.*
- 2) *Always use the proper PPE for every task.*

Accident 6: Fall Results from Improper Tie-Off Point

Mariano Redillas and Randy Watkins were servicing the crane and decided to use an aerial lift to inspect the brakes. Mariano raised himself in the lift while Randy stayed beside the locked-out disconnect. When he got to working level, Mariano tied off to a part of the building instead of the tie-off point at the bottom of the cage. The lift made a strange noise and the basket began to drop down, leaving Mariano hanging. He swung into the wall and his face was smashed.

SAFETY LESSONS:

- 1) *Always follow safety and job procedures.*
- 2) *Always tie off to the approved point in an aerial lift.*
- 3) *Never tie off to anything outside the lift.*
- 4) *If you have any indication equipment is not working properly, have it repaired before use.*

Accident 7: Failure to Change Respirator Cartridge Results in Blackout and Injury

While mixing up a pot of paint in the production area, Bet Ayling could tell that the cartridge in her respirator needed to be changed because she could smell the powerful fumes from the paint. Knowing that the job was almost complete, she decided to finish the task before changing the cartridge. The fumes became overbearing and she blacked out, striking her ear on the table before she hit the floor.

Safety Lessons:

- 1) *Don't cheat safety; you will lose.*
- 2) *Always follow safe operating rules when using respirators as well as any other items of PPE.*
- 3) *Change respirator cartridges when required.*

Accident 8: Unprotected Foot Injury Suffered When Struck by Falling Steel Beam

Production employee Albert Malini, who had cut his foot at home while performing some yard work, had allowed his large toe to become infected. Due to the pain he was experiencing from the infection, he decided to wear a cut out tennis shoe on the injured foot instead of his normal steel-toed shoe. While working at his drill press, he banged his hurt toe against the worktable. When he jerked back, he pulled a steel beam off the table. The steel fell to the floor and severed his toe.

Safety Lessons:

- 1) *Understand why PPE is required and wear it for your protection.*
- 2) *Let your supervisor know when you are unable to perform your job properly.*

PREPARE FOR THE SAFETY MEETING OR TRAINING SESSION

Review each section of this Leader's Guide as well as the videotape. Here are a few suggestions for using the program:

Make everyone aware of the importance the company places on health and safety and how each person must be an active member of the safety team.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline. Copy the "Accidents and Their Safety Lessons" portion of this leader's guide and hand out to the participants.

Copy the review questions included in this Leader's Guide and ask each participant to complete them.

Copy the attendance record as needed and have each participant sign the form. Maintain the attendance record and each participant's test paper as written documentation of the training performed.

Here are some suggestions for preparing your videotape equipment and the room or area you use:

Check the room or area for quietness, adequate ventilation and temperature, lighting and unobstructed access.

Check the seating arrangement and the audiovisual equipment to ensure that all participants will be able to see and hear the videotape program.

Place or secure extension cords to prevent them from becoming a tripping hazard.

CONDUCTING THE PRESENTATION

Begin the meeting by welcoming the participants. Introduce yourself and give each person the opportunity to become acquainted if there are new people joining the training session.

Explain that the primary purpose of the program is to show viewers that Personal Protective Equipment is their last line of defense against workplace hazards that cannot be controlled through engineering or other means, and to stress that injuries and deaths will occur if the proper protection is not worn in all required situations.

Introduce the videotape program. Play the videotape without interruption. Review the program content by presenting the information in the program outline.

Lead discussions about specific accidents and injuries that have occurred at your facility as a result of wearing improper or no PPE. Use the review questions to check how well the program participants understood the information.

After watching the videotape program, the viewer will be able to explain the following:

- The purpose of wearing PPE in the workplace;
- Types of head, eye, hand and respiratory protection;
- The importance of wearing hearing and foot protection;
- Components of the fall protection system.

**HIGH-IMPACT PERSONAL PROTECTIVE EQUIPMENT
REVIEW QUESTIONS**

Name _____ Date _____

The following questions are provided to check how well you understand the information presented during this program.

1. All workplace hazards can be eliminated by some form of Personal Protective Equipment.
 - a. true
 - b. false

2. A hardhat provides the same protection whether turned forwards or backwards.
 - a. true
 - b. false

3. _____ are the most vulnerable part of the body when exposed to workplace hazards.
 - a. Eyes
 - b. Feet
 - c. Hands and fingers
 - d. none of the above

4. There is no single work glove that will protect you against all hazards.
 - a. true
 - b. false

5. Where will you find out which type of respirator cartridge you need for a specific job?
 - a. from the respirator manufacturer
 - b. from a competent co-worker
 - c. from your plant manager
 - d. from the MSDS for the substances with which you work

6. Which of the following is not a component of a complete fall system?
 - a. a full body harness
 - b. a shock absorbing device
 - c. a safety belt
 - d. a proper tie-off point

7. What type of glove is most effective for electrical hazards?
 - a. cotton
 - b. rubber
 - c. plastic
 - d. metal mesh

8. What is the main cause of the accidents presented in this program?
 - a. employees being in the wrong place at the wrong time
 - b. employees not understanding how to use PPE
 - c. improper use of tools by employees
 - d. employees not using the proper PPE at all times

ANSWERS TO THE REVIEW QUESTIONS

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