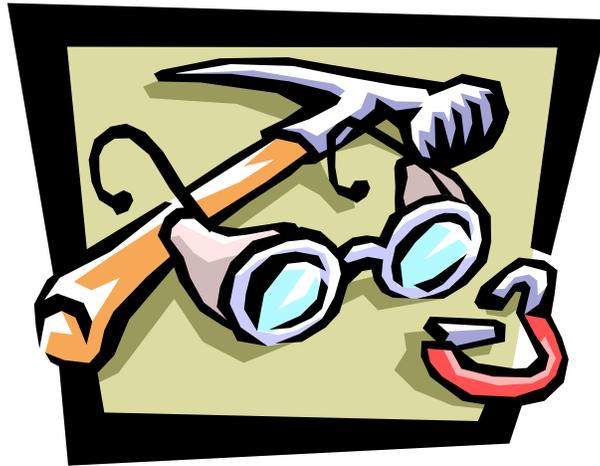


Occupational Safety And Health Initial



**Course No.
145.01
May, 2008**

Occupational Safety & Health Initial

Terminal Objective:

At the completion of this course, the trainee will comply with basic Occupational Safety & Health policies, including identifying, reporting, and reducing workplace hazards.

Enabling Objectives:

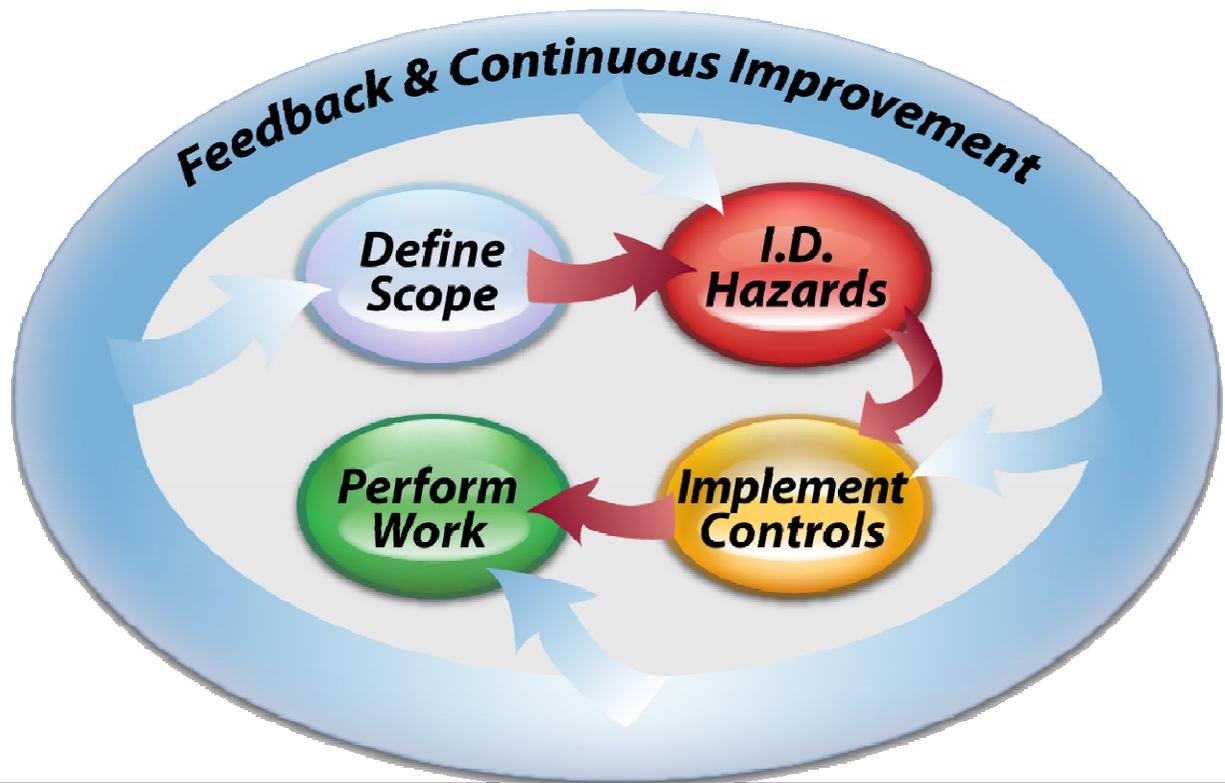
The trainee will:

- EO1 Describe how to Submit a Safety and/or Health Complaint.**
- EO2 Identify imminent dangers, medical emergencies, and near-miss incidents.**
- EO3 Describe how to report work-related injuries/illnesses.**
- EO4 Identify disciplinary actions from safety violations.**
- EO5 Identify safety warning signs and protective tags.**
- EO6 Identify how to use safety eyewash, shower facilities, and first aid kits.**
- EO7 Identify the hazards associated with:**
 - A. Steam Pipe Leaks**
 - B. Walking/Working Surfaces**
 - C. Compressed Gases**
 - D. Moving/Rotating Equipment**
 - E. Scaffolds & Ladders**
 - F. Electrical hazards (safety precautions, emergency action for victims of electrical shock)**
 - G. Heat and Cold Stress**
 - H. Confined Spaces**
- EO8 Identify plant policy and employee responsibilities regarding the use of the following personal protective equipment (PPE):**
 - A. Hard Hats**
 - B. Eye Protection**
 - C. Hearing Protection**
 - D. Foot Protection**
 - E. Hand and Body Protection (Coveralls)**
 - F. Respiratory Protection**

Introduction

The purpose of this course is to provide you with information to ensure that you have the knowledge to perform assigned work in a manner that promotes safety of self and co-workers, and protects plant property, and the environment.

Integrated Safety



Defining the scope

Identify the hazards

Implementing controls

Perform Work

Continuous Feedback and Improvement

I. Submitting Safety and/or Health Complaints (EO1)

A *COMPLAINT* is an oral or written communication by an employee alleging that there are conditions in the work environment, which are in violation of DOE/NNSA standards, prescribed OSHA regulations or pose a safety or health hazard to any individual.

A complaint may be filed *orally/verbally*, in person, anonymously, by telephone, or filed *in writing* by memo, letter, FAX, or through the use of DOE/NNSA Form 5480.4 "U.S. Department of Energy Contractor Employee Occupational Safety or Health Complaint." **Anyone may file a complaint.**

Where do I File a Complaint?

1. *Supervisor/Point of Contact at Pantex*
2. *Safety Hotline - EXT. 4441*-The hotline is a recording where you can leave a message with or without leaving your name.
3. *DOE/NNSA*-use form DOE/NNSA F 5480.4, "U.S. DOE/NNSA Contractor Employee Occupational Safety or Health Complaint."
4. *Fax to Safety and Industrial Hygiene Department at 477-5613*

What Happens After I File a Complaint?

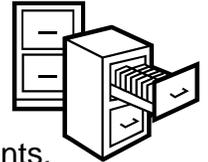
1. Persons responsible for conducting the inspection will **contact** the employee/complainant/authorized representative who originally filed the complaint. If the complainant has chosen to remain anonymous, notice of inspection will be published in the "Pantex Pulse."
2. **Inspection** of the circumstances or condition identified by the complainant will occur.
3. **Appropriate action** will be taken to prevent recurrence of the danger or hazard.

What if I am NOT satisfied with the results?

If, after filing a complaint, no action is taken to resolve the safety or health concern, the employee may submit DOE/NNSA F 5480.4. The form may be obtained from the Safety and Industrial Hygiene Department or your point of contact at Pantex. The completed form may be submitted to the employee's supervisor/point of contact, or to the Safety and Industrial Hygiene Department. If no/insufficient action is taken, submit the completed form to the DOE/NNSA Pantex Site Office (PXSO). If still no/insufficient action is taken, you can submit the completed form to DOE/NNSA HQ in Washington, D.C.

No contractor shall discharge or in any manner demote, reduce in pay, coerce, restrain, threaten, or take any other negative actions against any contractor employee as a result of the employee's filing of a complaint.

Employees, who believe that they have been discriminated against or discharged, may file a complaint with DOE/NNSA Pantex Site Office (PXSO) within 30 days after the alleged discrimination. (Plant Standard 3061)



Records

The Safety and Industrial Hygiene Department maintains files containing complaints, corrective action files, and records of Safety Hotline calls.

II. Reporting Imminent Danger & Near-Miss Situations (EO2)

IMMINENT DANGER is any condition or practice that could be expected to cause death or serious physical harm unless immediate action is taken to mitigate the effects of the hazard and/or remove people from the area.

Examples of Imminent Danger:

1. **Live power lines on the ground,**
2. **Working without proper Lockout/Tagout,**
3. **Reckless driving of a forklift.**
4. **Potential fall or fall from elevated work surface potential**

In the event of Imminent Danger, the employee should (STD-3061):

1. ***Stop work.***
2. ***Keep others away from the hazard.***
3. ***Notify the area Supervisor/Point of Contact.***
4. ***Notify the Operations Center at Ext. 5000.***

A **NEAR-MISS** is an incident/event that did not cause an injury or accident, but could have caused serious injury, property damage, or an insult to the environment. (STD-3140) Near misses should always be reported to the area **supervisor/point of contact, SAFETY AND INDUSTRIAL HYGIENE DEPARTMENT**, and to the **Operations Center**. Reporting a near miss allows correction of the problem BEFORE an accident occurs.

III. Reporting Work Related Injuries/Illness/Falls & Medical Emergencies (EO3)



ALL occupational injuries, illnesses, and falls **MUST** be reported IMMEDIATELY to the *Occupational Medicine Department* at EXT. 3033 and to the individual's *supervisor/point of contact*. If *Occupational Medicine Department* is closed, they must be reported to the *Fire Department* at the time of the event. Failure to report them can result in disciplinary action and loss of worker's compensation benefits.

Medical Assistance/Minor Injuries

Minor injuries can be treated on-site by using the area first aid kits, or by professionals at the Occupational Medical Department (OMD) facility in Bldg. 12-2. The Occupational Medical Department (OMD) facility is open M-F, 7:00 am- 4:30 pm. After hours, Fire Dept. personnel can render first aid located at Bldg. 12-130.

Medical Assistance/Serious Injuries

A **MEDICAL EMERGENCY** is any condition in which life or limb is threatened. If in doubt, consider the situation to be a medical emergency and act accordingly.

In the event of a medical emergency the employee should:

1. Call for ambulance - Ext. 3333.
2. Call the Operations Center - Ext. 5000.
3. Notify the area supervisor/point of contact.
4. Render first aid, if possible.
5. Notify OMD or the Fire Department for reporting purposes.

Seriously injured/ill persons will be transported to an Amarillo hospital by ambulance or Lifestar helicopter if necessary. The Pantex ambulance service is staffed 24 hours a day, 365 days a year by trained EMT's and paramedics from the Fire Department.

IV. Safety Procedures, Permits & Violations (EO4)

BWXT Pantex's foremost responsibility is to operate the DOE/NNSA Pantex Plant in a manner that will protect the health and safety of the employees and the public as well as preserve the environment.

All personnel are responsible for complying with safety procedures while at this facility.



Safe Work Authorization

Certain activities require an authorization from the Safety and Industrial Hygiene Department before work can begin. The purpose of a "Safe Work Authorization" is to ensure that actions have been taken to identify specific task hazards; and to require appropriate abatement actions to eliminate or minimize the hazard to allow a safe work situation. Examples include: energized electrical lines, vacuum systems, asbestos, confined spaces, items with decontamination tags, explosives, etc.

Safety Violations

Safety violations are serious. Disciplinary action may result for safety violations. Actions are based on the severity of the violation, the frequency of occurrence and the employee's performance record. YOUR responsibility is to know and to follow all safety procedures. If you are a non-BWXT Pantex contractor, please refer any specific questions about your company's disciplinary policy to your management.

V. Safety Warning Signs (EO5)

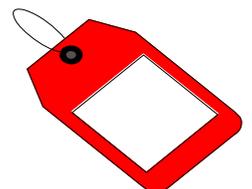
A **SAFETY WARNING SIGN** is a visual aid that advises us to beware, informs us of dangerous situations, or advises caution.

DANGER signs indicate immediate danger and special precautions are needed. **CAUTION** signs indicate a possible hazard against which proper precautions should be taken. Your responsibility as an employee is to read and OBEY all signs.



Protective Tags (EO1E)

When you see protective tags on pieces of equipment at Pantex, read and obey the instructions on the tag. Do NOT remove, deface, or disturb the tags





unless you are trained and authorized to do so.

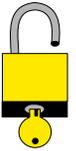
DO NOT USE TAG

Controls equipment during maintenance and repair.

Lockout/Tagout

Lockout/tagout devices are placed on hazardous energy systems during maintenance or service. This system of locking out and tagging the energy source ensures protection of employees, equipment, and the environment during maintenance or service.

Lockout/Tagout is used by trained, authorized personnel. It is prohibited to attempt to restart machinery or equipment that has been locked and tagged out. (Examples include: electric, thermal, hydraulic, steam, and pneumatic sources).



Repair Tag

A repair tag is used to indicate the general problem with the equipment and notification information to the proper maintenance personnel. **DO NOT** use equipment tagged for repair.

VI. Emergency Eyewash/Shower Facilities & First Aid Kits (EO6)

Emergency Eyewash/Shower Facilities

Emergency eyewash/shower facilities will be located in areas where there are hazards associated with chemical spills or exposure. Eyewash/shower stations will be marked with bright color and a highly visible sign.

If you are the victim of a chemical spill, use the emergency eyewash or shower to wash the exposed area for 15-20 minutes. Notify Medical and the Fire Department immediately. Ask your supervisor/Point of contact to show you the location of the eyewash and shower facilities in your work area.

First Aid Kits

Most buildings have first aid kits for your use at Pantex. Ask your supervisor to show you its location. Do not remove the 1st Aid Kit.

VII. Specific Job Hazards (EO7A)

Steam is used in a variety of applications, at various temperatures and pressures. **STEAM PIPE LEAKS** can develop around valves or pipe fittings. Steam pipe leaks can result in serious burns. Steam pipe leaks should be reported immediately to your supervisor. Steam pipe leak indicators include: visible vapors, whistling hoses, increased area temperature, and moisture on walls/ceilings or walking surfaces. Banging in the steam pipes, called Water

Hammer, can be a dangerous situation. If you hear it, report it to your supervisor/point of contact, the building manager, or Utilities. Do not try to find the leak with your hand or close inspection with unprotected eyes. Cuts and injections could/would result in serious injury.

VII. *Walking/Working Surfaces (EO7B)* sometimes contain hazards. Always be alert to what is in front of you. Look ahead when you walk. Do not run. It is prohibited except during emergencies. Such hazards are:

1. Steps at unexpected places.
2. Low conduit trays.
3. Pipes close to the floor.
4. Standing water in the ramp.
5. Icy walking areas – wind.

Do not violate barriers to take a “short cut” or to continue to work. Wait until the barrier is removed. If your working surface is 4 feet (6 feet for construction) or more off the ground and unguarded, appropriate fall protection is required.

The Standard-3155 covers Weather related hazard identification and abatement. It is your responsibility to review this information.

VII. *Compressed Gas Cylinder (EO7C)* may contain flammable or poisonous gases and can become dangerous projectiles should the valves become damaged.

If you see cylinders, which are not in use without the valve caps in place, report the situation to your supervisor/point of contact or other appropriate authority. Cylinders should always be moved and stored with the valve caps in place. Compressed gas cylinders should always be secured with strapping or chains to prevent them from falling over. Report unsecured cylinders!

VII. *Rotating and Moving Equipment (EO7D)* can present a hazard to personnel who are unaware. To work safely around rotating/moving equipment remember the following:

- ▶ Do not wear loose clothing or jewelry near this equipment.
- ▶ Never remove or tamper with machine guards and/or shrouds.
- ▶ Shredders pose a danger. Fingers, badges, or necklaces could enter and cause injury. Stay the maximum distance from shredder intake.

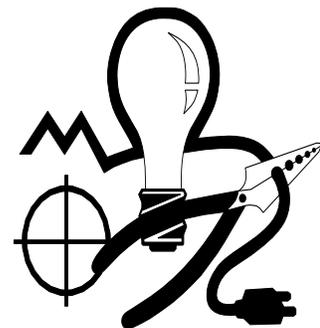
VII. Scaffolds and Ladders (E07E)

Never use any equipment unless trained and authorized. Maintain a safe distance from ladders and scaffolding when passing by. Never walk under scaffolding unless authorized and wearing a hard hat.

VII. Electrical Hazards & Safety Precautions (E07F)

Electrical Safety Rules to Remember:

1. Never alter cords or plugs. Inspect cords and plugs before each use. Get frayed cords repaired. Dispose of frayed extension cords.
2. Do NOT use electrical outlets if they fail to firmly grasp a plug when inserted; instead, move to a different outlet.
3. Do NOT use extension cords on a permanent basis and do NOT overload extension cords or regular outlets.
4. Do NOT run extension cords through doorways or allow them to be crushed at the outlet by office furniture.
5. Do NOT allow extension cords to become tripping hazards in aisle ways.
6. Keep tools clean, dry and properly stored. Never carry a tool by the cord or unplug it by pulling the cord.
7. Avoid using electrical equipment in wet areas.
8. Always follow safety warning signs.
9. Never dig without a permit due to underground cables.
10. To ensure proper clearance from energized power lines, LOOK UP before lifting conductive objects in the air. Overhead power lines should be de-energized prior to work. If they cannot be de-energized or if the disconnect cannot be verified, keep at least 10 feet away from energized overhead lines.
11. Use protective equipment (PPE) such as nonconductive hard hats, insulating gloves & boots, and face shields. Make sure that all PPE is properly rated for the job.
12. Use Ground Fault Circuit Interrupter (GFCI) devices, which will shut off the power



source rapidly if there is an imbalance in the electrical flow. These devices are designed to protect personnel from electrocution.

13. Never open circuit boxes unless authorized to do so.
14. Stay at least 4 feet away from exposed electrical terminals such as open breaker panels.
15. Do NOT reset an over current device, circuit breaker. Have a qualified person ensure that the circuit is clear and the breaker can be reset safely.
16. Stay out of equipment rooms/vaults where there are exposed energized terminals unless the equipment is made electrically safe.
17. Consider ALL electrical components to be ENERGIZED until properly locked/tagged out and tested to ensure power is OFF.

Common Symptoms of Electrical Shock

Muscular contraction	Burns
Respiratory failure	Cardiac arrest

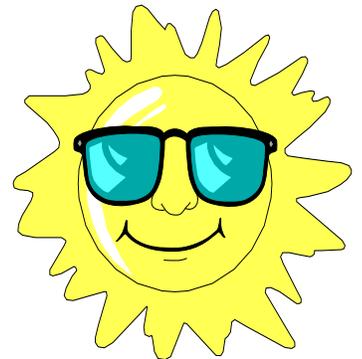
In the event of an electrical shock:

1. Shut off the power if asked to do so and call the Fire Dept. at Ext. 3333.
2. If shutting off the power is not possible, contact the Fire Dept. immediately. Continue looking for power shut off. Never touch the victim directly while the power is on or you will become shocked also. DO NOT try to rescue the victim unless you have been specifically trained in removing a victim from an electrocution situation. Most secondary deaths are the result of untrained people trying to rescue.
3. Contact and update the OC - Ext. 5000.

VII. Heat Stress (EO7G)

Preventative Techniques: Proper air circulation, limit exposure time, and plentiful supply of drinking water.

Heat Exhaustion is a condition usually caused by loss of body water. Symptoms may include: weakness, fatigue, nausea, confusion, fainting, heavy perspiring, and normal skin temperature.



Most victims of heat exhaustion will recover by themselves given proper first aid. *First aid*

procedures are: move the victim to a cooler area, help him/her to drink cool water, and take him/her to Occupational Medical Department (OMD) building 12-2 for an evaluation.

Heat Stroke is a serious condition resulting from sweat suppression and increased storage of body heat. It can be life threatening and requires immediate first aid and professional medical attention. Symptoms of heat stroke may include: hot, dry skin, high body temperature, mental confusion, convulsions, collapse, and coma.

First aid procedures are: move the victim to a cooler area, call immediately for an ambulance (Ext. 3333), circulate the air around the victim's body (fan the victim), and apply cool wet soaks to the victim's body.

VII. Cold Stress (E07G)

Preventative Techniques: Adequate clothing-layers, frequent breaks to limit exposure, do not take drugs or alcohol, and check medications for these types of conditions.

Hypothermia occurs when the core body temperature falls below 95°F. Symptoms of *hypothermia* include uncontrollable shivering, reduced mental alertness/confusion/disorientation, weakened pulse, pain in the extremities, unconsciousness, and drowsiness.

Frostbite occurs when exposed flesh freezes. It most commonly occurs in the hands, feet, nose, ears, and cheeks. Symptoms of *frostbite* include whitening of the skin, loss of mobility of the affected area, pain or numbness, and blisters.

First Aid for both hypothermia and frostbite includes moving the victim to a warmer area, call for immediate emergency medical assistance (Ext. 3333), and removing victims wet clothing. Do not rub or apply heat to the affected area. This could cause more harm.

VII. Confined Space (E07H)

Work in confined spaces is considered hazardous. Danger could be from a hazardous atmosphere or from oxygen deficiency.

A confined space refers to any space:

- ★ large enough for a person to bodily enter and perform work.
- ★ has restricted entry and exit.
- ★ not designed for continuous employee occupancy.



All entrances to confined spaces must be identified with a special sign. Permits and training are required before entry. Permits are obtained from the Safety and Industrial Hygiene Department.

Examples of confined spaces include: tunnels, tanks, manholes, ventilation ducts, etc. **DON'T TRY AND RESCUE A DOWNED WORKER IN A CONFINED SPACE, CALL THE FIRE DEPARTMENT FOR HELP.**

VIII. Personal Protective Equipment (EO8)

According to OSHA Regulations, the employer is responsible for:

- ☞ providing PPE and appropriate training in the use of the PPE.

The employee is responsible for:

- ☞ using PPE when needed.
- ☞ using PPE in accordance with the manufacturers recommendations and for the specific hazard in which it was designed.

VIII. Hard Hats/Head Protection (EO8A)

Approved head protection is required in all work areas where there is a potential for injury from falling and flying objects or electrical burns or shock.

Take care to maintain assigned head protection in a sanitary and reliable condition. Hard hats should not be decorated. **REPLACE** any head protection if damaged.

VIII. Eye Protection (EO8B)

Eye Protection is required when entering any bay, cell, laboratory, warehouse, pit storage, crafts shop, explosives area, firing range, or other designated areas.

Appropriate eye protection will be used when welding, cutting, or machining to prevent foreign matter from entering the eyes.

Eye protection includes: goggles, safety glasses (prescription or non-prescription) with side shields, and face shields. **REPLACE** eye protection if it is scratched, discolored, or damaged.

Supervisors will authorize the purchase of prescription safety glasses. Otherwise, generic safety glasses are made available for entering these areas.

VIII. Hearing Protection (EO8C)

Hearing Protection is required in posted areas, where high noise levels exist which is determined by Safety and Industrial Hygiene Department.



Earplugs must provide adequate protection for the general user. Dispose of after each use. They may be obtained from General Stores or ask the Point of Contact. First time users should read the package directions or ask for assistance before inserting the earplugs.

Ear Muffs are available for those with special medical needs. They are obtained from General Stores.



VIII. Foot Protection (EO8D)

Foot Protection is required when entering active work bays, cells, storage areas, crafts shops, laboratories, or any posted location where objects could fall on the foot, possible punctures, and electrical hazards.

Employees requiring safety shoes will be given appropriate purchase orders and will be instructed by their supervisor or Point of Contact where to go for fitting. Although supervisors are responsible for deciding when shoes should be replaced, shoes that have received a significant impact on the safety toe **MUST** be replaced.

Toecaps are available to employees who do not have safety shoes.

VIII. Hand/Body Protection (EO8E)

Protective gloves must be worn when involved in any work activity that could result in a hand or finger injury, chemical exposures or burns, or contamination.

Both short and long-sleeves coveralls are available for plant personnel depending on the type of work involved. Other types of protective clothing are aprons, elbow/knee pads, back supports, etc. Follow manufacturer's specifications when choosing and using PPE. **REPLACE** torn, punctured, or damaged protective clothing.



VIII. Respiratory Protection (EO8F)

Respiratory equipment is issued to employees who require it, only after training, fit testing, and medical evaluations are performed.

Employees who use respiratory equipment may not be allowed to wear: facial hair, contact lenses, or glasses. Check with your supervisor to see what will be allowed with your respiratory equipment.

Air filtering devices (respirators) contain filters to eliminate certain breathing hazards. Full or half face respirators are allowed at Pantex.

Air supplying devices, such as a Self Contained Breathing Apparatus (SCBA) or Airline Respirators, involve carrying an air supply tank or are connected to air supply and are required for some programs.



Voluntary Protection Program (VPP)

The Voluntary Protection Program is a DOE/NNSA program which fosters a cooperative relationship between management, labor, and DOE/NNSA for the enhancement of worker safety and health. Levels of participation include STAR, MERIT, and DEMONSTRATION, which are aimed at recognizing, emphasizing, and encouraging good safety and health program management. The benefits of VPP include: increased employee involvement, reduced injury/illness rate, less DOE/NNSA oversight, positive community image, increased worker morale.

Conclusion

You as an individual are the most important factor in creating a safe place to work. Plant management expects you to comply with safety rules. If you are not sure of a policy or procedure, take a minute to find out BEFORE you start the job. With your help, Pantex can remain a safe place for everyone!

