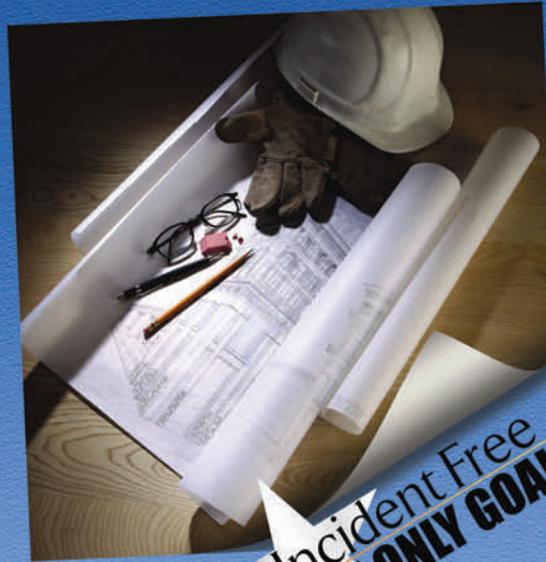


# *Contractor Safety & Health Handbook*



Incident Free  
**THE ONLY GOAL**

**B&W**  
Pantex



## TABLE OF CONTENTS

|   |           |
|---|-----------|
| <b>1 . INTRODUCTION .....</b>                                       | <b>5</b>  |
| <b>2 . DEFINITIONS .....</b>  | <b>6</b>  |
| <b>3 . GENERAL INFORMATION .....</b>                                | <b>7</b>  |
| 3.1 Injuries .....  | 7         |
| 3.2 Motor Vehicles .....  | 7         |
| 3.3 Rules of Conduct .....  | 7         |
| <b>4 . SAFETY TECHNIQUES.....</b>                                   | <b>8</b>  |
| 4.1 Daily Safety Briefings.....                                     | 8         |
| 4.2 Inspections.....  | 9         |
| 4.3 Hazard Communication .....                                      | 9         |
| <b>5 . SITE AND ENVIRONMENTAL CONDITIONS.....</b>                   | <b>11</b> |
| 5.1 Housekeeping .....  | 11        |
| 5.2 Access, Walking Working Surfaces .....                          | 12        |
| 5.3 Potable Water and Sanitation .....                              | 13        |
| 5.4 Illumination .....  | 13        |
| 5.5 First aid and Medical Treatment and<br>Emergency Response ..... | 13        |
| <b>6 . PERSONAL PROTECTIVE EQUIPMENT .....</b>                      | <b>14</b> |
| 6.1 Protective Clothing /Equipment .....                            | 14        |
| 6.2 Head Protection .....   | 15        |
| 6.3 Protecting Face and Eyes.....                                   | 15        |
| 6.4 Hearing Protection .....  | 16        |
| 6.5 Hand .....  | 17        |
| 6.6 Back .....  | 18        |
| 6.7 Legs and Ankles .....   | 18        |
| 6.8 Feet and Toes.....  | 19        |
| 6.9 Respiratory Protection .....                                    | 19        |
| 6.10 Skin Precautions .....   | 20        |
| 6.11 Other Hazards.....   | 20        |
| 6.12 Levels of Protection .....                                     | 21        |

|   |           |
|---|-----------|
| <b>7 . TOOL SAFETY.....</b>                       | <b>22</b> |
| 7.1 General Requirements.....                     | 22        |
| 7.2 Hand Tools.....                               | 22        |
| 7.3 Portable Electric Tools.....                  | 23        |
| 7.4 Hydraulic Tools.....                          | 24        |
| 7.5 Pneumatic Tools.....                          | 25        |
| 7.6 Fuel Powered Tools.....                       | 26        |
| 7.7 Portable Powered Abrasive.....                | 26        |
| 7.8 Powder Actuated Tools.....                    | 26        |
| <b>8 . EQUIPMENT.....</b>                         | <b>28</b> |
| 8.1 General Requirements.....                     | 28        |
| 8.2 Ladders.....                                  | 28        |
| 8.3 Scaffolding.....                              | 30        |
| 8.4 Barricades.....                               | 33        |
| <b>9 . HOT-WORK RELATED ACTIVITIES.....</b>       | <b>34</b> |
| 9.1 Welding, Cutting and Grinding.....            | 34        |
| 9.2 Compressed Gases.....                         | 36        |
| 9.3 Motor Vehicles and Power Equipment ..         | 38        |
| 9.4 Hoisting and Rigging.....                     | 40        |
| 9.5 Drilling Safety Guidelines.....               | 42        |
| <b>10 . GENERAL SAFETY PROGRAMS.....</b>          | <b>45</b> |
| 10.1 Fall Protection.....                         | 45        |
| 10.2 Lockout/Tagout.....                          | 46        |
| 10.3 Excavations and Trenching.....               | 50        |
| 10.4 Penetration Permits.....                     | 53        |
| <b>11 . FIRE PROTECTION.....</b>                  | <b>54</b> |
| 11.1 Extinguishers.....                           | 54        |
| 11.2 Flammable & Combustible Materials ..         | 55        |
| 11.3 Smoking.....                                 | 56        |
| 11.4 Emergency Services.....                      | 56        |
| 11.5 Evacuations.....                             | 58        |
| <b>12 . WASTE MANAGEMENT.....</b>                 | <b>59</b> |
| <b>13 . ENVIRONMENTAL PROTECTION/SWMUs .....</b>  | <b>59</b> |
| <b>14 . ADVERSE WEATHER CONDITIONS.....</b>       | <b>59</b> |
| <b>15 . EMERGENCY SERVICE PHONE NUMBERS .....</b> | <b>61</b> |

## 1. INTRODUCTION

B&W Pantex has committed to our client, the Department of Energy, that our operations represent the highest achievements in safety. To accomplish this, we need your help, the assistance of your co-workers and the support of all levels of management.

This handbook is intended to help contractor personnel understand and comply with the safety and health requirements of OSHA, DOE, and the B&W Pantex Division 1 Specifications. This handbook is to supplement, but not replace, the safety and health requirements of OSHA, DOE, and B&W Pantex.

Your employment here may involve new work methods that are not familiar to you. If you are uncertain about any aspect of your job, particularly the safest ways to perform the work, "Take Two," and ask your supervisors or a BXWT Representative.

### **ES&HS Vision Statement and Policy**

Safety is your most important responsibility while working at B&W Pantex. What we consider as working safely at B&W Pantex is probably different and more rigorous than what you have experienced at any other site or with any other customer. At B&W Pantex we operate under the principle of "Incident Free," which means that every day we set our goal as no injuries to personnel and zero incidents that adversely affect plant operations, equipment, or facilities. As subcontractor employees working at B&W Pantex, the same principle of Incident Free requires each of us, B&W Pantex employees and subcontractor employees, to think

daily about how we can achieve our goal while maintaining “Safety First.”

***To achieve an incident-free environment, we can never be satisfied, thinking that we have achieved our goal.***

## **2. DEFINITIONS**

**AHA** – Activity Hazard Analysis - A detailed list of hazards that can be encountered during each identified phase of work and control measures to be taken mitigate each hazard.

**Competent Person** - An individual who is capable of identifying existing and predictable hazards in the work area or working conditions that are unsanitary, hazardous, or dangerous to employees, and who has authorization to take prompt corrective measures to eliminate them. Some OSHA standards have specific requirements for competent persons, such as those for asbestos, scaffolding, excavations, etc. B&W Pantex requires competent person/persons designated for all projects.

**Preliminary Hazard-PreHA** – (Preliminary Hazard Analysis) - This is a review of potential hazards identified during project planning. It serves as an information source for job site superintendents and competent safety personnel to evaluate potential hazards and to implement appropriate mitigating controls. PreHAs are based upon facility conditions, including

operations, and will identify hazards or potential hazards a subcontractor could encounter.

### **3. GENERAL INFORMATION**

#### **3.1 Injuries**

- Report all injuries to your immediate supervisor or the B&W Pantex Operations Center (X-5000) and your assigned B&W “Point of Contact.”
- Accidents will be investigated. Always preserve the accident scene to allow for a proper investigation.

#### **3.2 Motor Vehicles**

- Report vehicle accidents to your immediate supervisor and the B&W Pantex Operations Center (X-5000). -Subcontractor personnel involved in an accident or incident that results in damage to B&W property will be required to take a Breath Alcohol Test (BAT) and drug screen in a timely manner following the accident or incident.
- Obey traffic signs, obey established speed limits, and always wear your seatbelt when operating a government or private vehicle at B&W Pantex.

#### **3.3 Rules of Conduct**

B&W Pantex and DOE prohibit the use, possession, concealment, transportation, promotion, or sale of a number of items or substances on DOE premises. Examples include:

- Illegal drugs, look-alikes, designer drugs, and drug paraphernalia.

- Controlled substances such as medication when usage is abused.
- Alcoholic beverages.
- Firearms, weapons and ammunition.
- Unauthorized Explosives.
- Stolen Property or contraband.
- Unauthorized cameras or photographic equipment.
- Unauthorized recording devices.

***Employees who violate this policy will be subject to disciplinary action up to, and including termination.***

B&W Pantex reserves the right to conduct drug and/or alcohol search and screening consistent with B&W Pantex and DOE policy.

#### **4. SAFETY TECHNIQUES**

##### **4.1 Daily Safety Briefings**

Your supervisor or competent safety person will conduct daily safety briefings based upon assignments/tasks to be performed.

The purpose is to place safety compliance and accident prevention foremost in your mind, and through employee interaction.



## **4.2 Inspections**

B&W Pantex Safety Specialists, B&W Pantex Management, and others, including PXSO personnel, will routinely inspect your work area. Safety findings and observations will be documented and discussed with your supervisors. Safety findings and observations will be corrected in a timely manner. Workers are expected inspect equipment before use and remove damaged equipment from service. Make a quick check of your work area at the beginning of each shift to make sure everything is satisfactory. Note any changing conditions that could affect safe work performance and report such changes to your supervisor or designated safety representative.

## **4.3 Hazard Communication (1910.1200)**

- The contractor will maintain MSDSs of all chemicals brought onto the B&W Pantex Site. The contractor will keep MSDSs at the job site or at an immediately accessible location. All personnel will be aware of the chemicals in use and the hazard associated with those chemicals.
- Personnel will adhere to the manufacturer's PPE requirements. Training on the company's Hazardous Communication Program will provide contractor personnel with the necessary awareness and knowledge of chemicals to be used.

- The Hazard Communication Program is your “Right to Know” about the hazards you may encounter in the work place. You are informed of these hazards by the following:
- During safety briefings, your supervisor will identify specific hazards (to include chemical hazards) you may expect to encounter at each work location and how to protect yourself. If a new type of chemical or substance is to be used, you must be trained as to safe handling, use and disposal of such chemicals or substances.
- The General Contractor will maintain a list of chemicals for the entire job site. All sub-contractors will submit copies of their chemicals to the General Contractor.
- MSDS sheets will be readily available for all hazardous chemicals used on the job site. Your superintendent/competent safety person will make MSDSs available to you upon request.

***Remember – you have the right to ask and receive an answer without fear of reprisal.***

## 5. SITE AND ENVIRONMENTAL CONDITIONS

### 5.1 Housekeeping

- Good housekeeping will reduce confusion! Work areas shall be kept clean and orderly to the extent that the nature of the work allows.
- Put scraps, trash and other waste in the proper containers. Keep oily rags, waste or other combustible debris in properly labeled metal containers provided for that purpose. Covers shall be used on containers used for flammable or hazardous materials or those that contain garbage. Each job site has a waste management plan that specifies the proper disposal means for all debris (trash). Dispose of waste at frequent intervals.
- Clean up your work area and your tools as you go.
- Suspend electrical cords and hoses at least 7 feet overhead with non-abrasive/ non-conductive fasteners or lay them outside of walkways, never across. Electrical cords exposed to traffic and equipment should be properly protected.
  - Do not allow extension cords, air hoses, or welding leads or hoses to be placed where they create a tripping hazard.
  - Clear floor of tools, welding rod ends, and metal shavings. Floor will be kept clear and dry.

- Keep all material, tools, and equipment tied, stacked, or chocked to prevent rolling or falling.
- Keep small items in boxes or bins.
- Immediately remove protruding nails, screws, etc. to prevent puncture injuries.
- Maintain clear pathways through and around all work areas.

### **5.2 Access, Walking and Working Surfaces (1910.21 - 30)**

- Routes leading to and from all work locations must be free and clear of obstruction.
- Check passageways and routes for the following conditions:
  - Keep walkways and stairways clear. Stack material so workers and/or equipment can easily reach it.
  - Maintain proper aisle ways between stacks of materials.
- Do not block access/egress routes (i.e. ladders, doorways, etc.)

***CAUTION: Place nothing within 3 feet of any emergency equipment or electric panels. Fire department connections require 10-foot clearances.***

### **5.3 Potable Water and Sanitation (1910.141) (1926.51)**

- A sanitary drinking water source must be readily available for employees. This is especially important for work in hot environments and/or projects requiring PPE.
- Drinking water containers must be cleaned in a sanitary manner and the water changed daily. The common drinking cup is prohibited.
- Toilet facilities must be provided for site workers. Mobile crews should have transportation readily available to nearby toilet facilities.

### **5.4 Illumination (1926.26) (1926.56)**

Work areas, ramps, bays, cells, corridors, offices, and storage areas shall be illuminated to a minimum of 5 foot-candles.

### **5.5 First aid and Medical Treatment and Emergency Response (1910.151)**

Employees must report all accidents or occupational illnesses to their supervisor and to a B&W Representative as soon as possible.



Maintain the scene of any location where an accident or injury occurred. This will assist with site investigations and the possible corrective actions. Due to the remote locations at B&W Pantex, contractor personnel may obtain

medical assistance by calling the Operations Center at ext. 5000.

## **6. PERSONAL PROTECTIVE EQUIPMENT SUBPART I CFR 1910.132-138**

### **6.1 Protective Clothing /Equipment**

- Work in some areas may require personnel to wear protective clothing. Consult the AHA, Radiation Work Permit (RWP), or other applicable permits/procedures for instructions specific to each job.
- Before donning the protective clothing, the contractor will ensure personnel are properly trained on the use of such clothing.
- Do not wear clothing that can get caught in machinery or otherwise cause an accident such as, dragging pants cuffs, torn or loose long sleeves, or torn clothing or jewelry.
- Inspect PPE before use.
- Clothing made of polyester must be avoided around operations involving open flames or sparks. Polyester can melt against the skin if exposed to heat. For example, Ty-Vek suits are not permitted in areas where hot work is being performed.
- Conductive articles of jewelry and clothing (such as watchbands, bracelets, rings, key chains, necklaces, metalized aprons, cloth with conductive thread, metal headgear or metal frame glasses) shall not be worn

where they present an electrical contact hazard with exposed live parts.

## 6.2 Head Protection (1926.100)

Hard Hats are required on construction and demolition site. Areas typically requiring hard hats are:



- In any construction area
- In any posted building or shop area
- When required by a AHA
- When instructed by your superintendent or Competent Safety person. Hard Hats may not be painted or changed, although stickers are allowed. Do not alter the suspension or punch holes in a Hard Hat.

Exceptions to wearing a Hard Hat are:

- In offices, restrooms, lunchrooms, or similar areas except if performing construction or maintenance work in these areas
- In cars or cabs of trucks, unless the vehicle is inside an area that is posted as a hard hat area
- Crane and equipment operators under certain pre-approved conditions

## 6.3 Protecting Face and Eyes

- **Eye Protection**

Safety glasses with rigid side shields must meet ANSI Z87.1.



Sunglasses with side shields must meet ANSI Z87.1. They may only be worn outdoors during daylight hours.

***Metal frame glasses shall not be worn where they present an electrical contact hazard with exposed live parts.***

- **Full Face Shields**

Full face shields are required for grinding, some chemical handling operations, sawing masonry, operating equipment, chain saws, roofing cutters, masonry saws and other powered equipment, which may cause possible injury from flying debris.

When wearing a full-face shield, wear safety glasses under the shield. **Why**, because face shields only protect the face from particles or splashes. Face shields provide good protection from flying debris, but safety glasses are impact tested and meet ANSI Z87.1 requirements.

- **Other Eye Precautions.**

Know the location of eyewash stations if they are required in your work area. If you get foreign matter in your eye, flush the eye with water for a full 15 minutes. Do not try to remove anything from your eye by yourself, **contact the B&W Operations Center** for medical assistance.

#### **6.4 Hearing Protection**

To prevent noise-induced hearing loss, wear hearing protection in areas posted "Hearing Protection Required"

or when designated by posted requirements.

- Continuous high noise may require that a qualified person monitor the sound levels. When in doubt about noise levels and proper selection or use of hearing protection devices, contact your safety representative.
- Employees must be enrolled in a Hearing Conservation Program whenever employees exposures exceed 85dB (A) during an 8-hour work shift.
- A good rule of thumb is that hearing protection should be used any time you must raise your voice above a normal level to be heard by someone standing 3 feet away

#### **6.5 Hand (fingers and wrists)**

- Leather palmed gloves shall be worn when performing tasks that have the potential to cause lacerations, punctures, or abrasions.
- Leather gloves shall be worn when performing hot work or working on rigging.
- In accordance with NFPA 70E, special insulated, dielectrically tested, rubber gloves are used by qualified personnel when working on or near energized electric circuits
- Special gloves are required for working with solvents and for handling chemically treated materials. Contact your competent safety person to ensure you have the proper glove.

## 6.6 Back – Use the proper lifting techniques

- Be sure to establish a good grip and good footing.
- Keep the load close to your body.
- Keep your back straight when lifting.
- Bend your knees and use your leg muscles, NOT your back muscles.
- Avoid twisting your body while lifting.
- Never try to lift more than you can safely handle. Consider the size, shape, and weight of what you are lifting. When lifting by hand, with or without assistance, do not lift more than 40 lbs per person.
- When loads are awkwardly shaped or too heavy for one person, get assistance to move or lift the objects.

## 6.7 Legs and Ankles

### General

- Pants must not be so long as to drag on surface.
- Use a tool belt to carry pointed tools with the **POINTS DOWN**. Do not carry pointed or sharp tools in pockets.

### Special Jobs

- Shin guards are to be used when using chain saws, brush hooks, machetes, and other similar equipment.
- Snake Chaps or Snake Leggings are to be worn whenever there is a danger of snake-bites.
- Wear kneepads for prolonged work on your knees (during concrete finishing, tile laying, etc.)

### 6.8 Feet and Toes

Wear foot protection when working in or visiting construction areas or when designated by posted requirements. Wear hard-toed protective footwear meeting ANSI standards to prevent sole penetration by sharp objects, and to protect feet from injury by dropped objects and prevent slipping.

***Note! Hard-toed boots are required on all construction environmental and demolition projects.***

### 6.9 Respiratory Protection

Air purifying or supplied air respirators may be required for jobs. Respirator requirements will be spelled out in the Industrial Hygiene section of the Pre-AHA, AHA or RWP.



Only those personnel who have been properly fit tested and are medically qualified are allowed to wear respirators.

- **6.10 Skin Precautions**

- Protect your skin from sun, welding, and hot pipe burns by wearing proper clothing, protective equipment, and gloves. Shirts must be worn at all times and must cover your shoulders (a short sleeve T-shirt is the minimum allowed). Long pants are also required.
- Individuals should provide their own sun blocking products when exposure to strong sunlight.
- Avoid contact with poisonous plants. If contact is made with the skin, wash the area with soap and cool water. Immediately report the contact to your superintendent or competent safety person.
- Avoid wearing aftershave/cologne in outdoor locations as it may attract stinging or biting insects.



- **6.11 Other Hazards (acids, silica, dusts, etc.)**

- Do not handle or use acids or caustics until you have read and understood the MSDS and proper protective equipment.
- Make sure you have access to eyewash/shower before beginning work in an area where corrosives may be
- For concrete placements, wear full-length trousers, long-sleeve shirts, rubber boots, gloves, and avoid contact between skin surfaces and moist concrete to reduce the

possibility of concrete burns.

- Tasks with potential Silica exposure such as cutting bricks/masonry, mixing cement, cutting/jack hammering concrete, sandblasting, etc., may create dusts containing silica. Protect yourself from excessive dust exposure by utilization of the engineering, PPE, and sanitation controls specified on the AHA.

**6.12 Levels of Protection for Electrical PPE as defined in NFPA70E (Table 130.7 (C))**

|               |  |
|---------------|--|
| <b>HRC 1</b>  | FR long sleeve shirt, FR Pants, or FR Coveralls, hard hat (as needed), safety shoes, safety glasses, leather gloves (if shock protection is needed wear voltage rated gloves with leather)   |
| <b>HRC 2</b>  | FR long sleeve shirt, FR Pants, or FR Coveralls, hard hat, safety shoes, safety glasses, volt rated gloves with leather protectors, FR face shield, hearing protection.  |
| <b>HRC 2*</b> | FR long sleeve shirt, FR pants, or FR coveralls, hard hat, safety shoes, safety glasses, volt rated gloves with leather protectors, FR flash hood or FR face shield with FR balaclava or FR goggles with Balaclava, and hearing protection |
| <b>HRC 4</b>  | FR long sleeve shirt, FR pants, or FR coveralls, hard hat, safety glasses, safety shoes, volt rated gloves with leather protectors, flash suit, flash hood, and hearing protection.  |

## 7. TOOL SAFETY

### 7.1 General Requirements

**NOTE – For your own protection, always use the right tool in the right way and at the right time.**

- Inspect equipment before use to ensure handles, wrench jaws, heads on impact tools, wedges, chisels, and hammers electrical cords, and connections are in good repair and not defective.
- All hand and power tools must be maintained in a safe and proper working condition.
- All tools will be inspected by the user before each use. Defective tools and equipment will be tagged “DEFECTIVE - DO NOT USE,” immediately removed from the job site, and repaired or replaced. Your superintendent or competent safety person should be notified immediately.
- Factory installed guards or shield cannot be removed and must be in place.



### 7.2 Hand Tools

- Tools selection is as vital as tool usage. Personnel will be instructed to select the right tools for the tasks being performed.

- Keep your hand tools in top condition. Only tools that are clean, sharp, oiled, dressed, and free of abuse are permitted at the job site.
- Do not strike two hardened steel surfaces together (i.e., two hammers or a hammer and hardened steel shafts).
- Only pry bars are pry bars. Do not use any other tool as one. “Cheater” pipes are not allowed. Always pry away from your body.
- Tools used on or around electrical equipment or circuits will have insulated handles.

### **7.3 Portable Electric Tools (1910.242-243)**

- The Contractor will provide GFCI protection for any portable electric equipment used at the job site. The GFCI should be positioned as close as possible to the electrical outlet to protect the entire cord.
- Extension cords and power tool cords will be protected from foot traffic and vehicle traffic. When extension cords and power tools are not in service, they will be collected and placed in storage areas out of foot and vehicle traffic routes.
- Each extension cord and power tool should be inspected carefully before each use and damaged items brought to the attention of the site supervisor. These damaged items will be replaced or repaired before putting back in service.

- The Contractor will unplug all electric equipment before the end of the work shift and will protect extension cords from foot traffic, vehicle traffic, and pinch points.
- Personnel will ensure power tools are unplugged before changing out tool accessory. (Drill bit, blade, etc)
- While working at an elevated location, the contractor will use non-abrasive/non-conductive fasteners to suspend and support power cords.
- To prevent injury while using tools, wear equipment specific PPE.
- Do not operate power tools unless you are completely familiar with them. Consult the AHA for restrictions that may apply (for example, special training).
- Protect power tools from wet locations, rain and moisture when not in use.
- Proper guards or shields must be installed on all power tools. Guards are not to be altered or removed. Do not use tools without these in place.

#### **7.4 Hydraulic Tools**

- Hydraulic tools must be inspected before each use. Check the following items as they apply.
- Hoses and seals for leaks.

- Hoses seated and properly tightened.
- Manual controls operate properly.
- Electrical controls identified and functional.
- Cords, plugs, and controls for defects.
- Do not exceed the manufacturer's safe operating pressures for tools, hoses, and fittings.
- The manufacturer's rated capacity must be legibly marked and not exceeded.
- Hydraulic fluid must be of the fire-resistant type and be rated for the most extreme temperature the fluid will encounter.
- Before servicing or repairing hydraulic tools, the pressure must be shut off and "bled down" before it is disconnected.

#### **7.5 Pneumatic Tools**

- Pneumatic power tools will be inspected before each use for the following items at a minimum:
  - Hoses and seals for leaks
  - Hoses seated and properly tightened
  - Manual controls operate properly
  - Electrical controls identified and functioning
  - Cords, plugs, and controls for defects
  - Hose or anti-whip secured
  - Safety clips or retainers installed

- Pneumatic power tools will be secured to the hose or whip to prevent accidental disconnection.

#### **7.6 Fuel Powered Tools**

Fuel powered tools are not permitted in enclosed spaces, such as confined spaces or inside buildings.



#### **7.7 Portable Powered Abrasive Tools (1910.243)**

- Wheels will be inspected for damage and ring tested before mounting.
- Compare the RPM ratings on the wheel and on the tool to ensure that you do not over speed the wheel.
- Manufacturer's guards will be attached and properly adjusted before use.

#### **7.8 Powder Actuated Tools**

- Current training certification must be on site for all employees using powder-actuated tools.
- Only employees who have been trained in the safe operation of the particular tool in use shall be allowed to operate power-actuated tool.
- Before using powder-actuated tool it must be coordinated with the STR.
- Never use these tools in an explosive or flammable atmosphere.

- Before using this tool, the worker will inspect it to determine that it is clean, that all moving parts operate freely, and that the barrel is free from obstruction.
- Never point the tool at anyone.
- The tool should never be loaded unless it is ready to be used immediately.
- A loaded tool should never be left unattended, especially where it would be available to unauthorized persons.
- Hands should be kept clear of the barrel end at all times.
- The tool must not be able to fire unless pressed against the working surface.
- If a powder-actuated tool misfires, the employee must wait 30 seconds, before firing it again.
- Hearing and Dual face protection will be worn when using powder-actuated tools.
- If the tool develops a defect during use it should be tagged and taken out of service.
- Make sure gun and all load cartridges are store in an appropriate location and container, and the tool will not be left unattended.

## 8. EQUIPMENT

**NOTE – it is your responsibility to inspect your equipment before each use.**

### 8.1 General Requirements

- If your equipment becomes defective in any way, place a “DO NOT USE,” tag on it, and report it to your supervisor, or remove it from the Pantex Plant.
- Do not use or exceed the designed limits of the equipment. Do not use the equipment for anything other than its intended purpose.

### 8.2 Ladders

Ladders shall be used for climbing from one level to another. Work from extension ladders is permitted for short periods of time only. For long durations, or where work requires the use of tools or materials, the use of a platform step-ladder, scaffold or other approved working base is required.

#### General Information

Use of metal ladders is discouraged on site.

- All Contractor personnel will be instructed as to ladder safety before commencing work.
- Ladders will be inspected before use and damaged items are to be tagged and removed from service.

Stepladders will be fully open with spread bars locked in the open position. No matter

the height of the ladder, this will provide the maximum stability for the ladder.

- Personnel will be informed to maintain three-point contact while ascending and descending stepladders.
- Material will not be carried up or down ladders if the user cannot maintain three-point contact.
- Personnel will not extend more than one arm length outside the ladder's side rails, extending could topple the ladder. Personnel will also be reminded to remove any loose material from the base of stepladders to reduce the likelihood of slipping/tripping hazards. Routine housekeeping should keep this from happening.
- Stepladders will not be positioned within the swing radius of a door unless the door is blocked opened, locked or unless a monitor is placed on the opposite side of the door.
- Extension ladder used for accessing elevated work locations will extend 3 feet above the landing area and will be properly secured to prevent displacement during use.
- Stepladders will not be substituted for extension ladders.
- Check load-rating stickers to ensure ladder has adequate load capacity. Ladders will have a 1A rating.

- Do not set ladders on uneven or unstable surfaces. Use a mudsill on soft, loose, or rough soil.
- Always face the ladder and use both hands when ascending and descending. Never work backwards from a ladder. Use the three points of contact rule, 2 hands and 1 foot or 1 hand and 2 feet shall always be in ladder contact.
- No more than one person is allowed on a ladder unless the ladder is designed for additional persons.
- Straight and extension ladders must be secured to prevent tipping, sliding, or falling, before use. Use 4 to 1 rule = 4 feet up, 1 foot out.

***Do not use a step ladder as a straight ladder***

- Always know the safe working rungs on a stepladder.
- Do not place tools or material on steps or platform (except for platforms specifically designed for use as tool or material holders).

### **8.3 Scaffolding Subpart D (1910.28)**

General: Scaffolds present a significant safety hazard to personnel due to the nature of erecting the scaffold and working on an elevated platform. The items listed below are the general precautions



requirements that shall apply to the use of tube or frame scaffolds. For any other type of scaffolds, 29 CFR 1926 Subpart L shall be consulted before placing a scaffold in service, the competent person for scaffolding will post and sign a tag at each point of access to the scaffold to show its status for use.

### **Scaffold Erection**

- All components and accessories must be installed according to the manufacturer's instructions, utilizing parts and sections that came from the same manufacturer.
- Components and accessories must not be altered.
- Deck the full width of the scaffold at least two standard scaffold planks wide (12 inches, each plank). Cleat planks to prevent slipping off supports.
- Scaffold planks are purchased as scaffold planks; do not use for anything else.
- Scaffolds must be level, plumb, and on a firm base.
- Scaffolds must be tied off or stabilized with outriggers when the height is more than four times the smallest base dimension, with materials meeting the same load rating as the scaffold components.
- Scaffolds must be tied into the structure at least every 26 feet vertically and 30 feet horizontally, never to exceed 4 times the minimum base width.

- Casters, other than adjustable ones, must be pinned.

#### **Scaffold Inspection**

- Scaffolds will be inspected when being erected, altered, moved, or dismantled by the scaffold competent person.
- Scaffolds will be visually examined by the competent safety person before use each day to ensure as a minimum that:
- Planking is not broken or cracked, or cleats loosened.
- Planking is not muddy, oily, or otherwise unsafe.
- Guardrail members are not broken, rails split, or clamps loose.
- The scaffold was tagged for use and signed off by a competent person.
- The scaffold is free of debris and rubbish.
- All wheels are securely locked on a rolling or movable scaffold.
- Signs of damage or changes in the scaffold have not made it unsafe or inappropriate for use.

#### **Use of Scaffold**

- When accessing or exiting a scaffold, use only the attached ladder.

- Keep trash and excess material off scaffold to have the maximum amount of walking/working space.
- Do not work on slick or snow-covered scaffolds.
- Do not ride on a rolling scaffold. Remove/secure all tools and material on the deck before moving.
- Casters must be pinned.
- Do not stack masonry higher than 24 inches high on the scaffold deck.
- Elevated work, including working on scaffolds, will be suspended when wind speeds exceed 25-mph, including gusts.

#### **8.4 Barricades**

- All required Safety Signs, Barricades, and Covers will be established when necessary for the work being done.
- Construction personnel will use barricades to establish their work area and to prevent inadvertent entry by unauthorized personnel.
- Barricades are required around excavations, holes or openings in floors, roofs, manholes, elevated platforms, around certain types of overhead work, and whenever necessary to warn personnel of potential hazards.
- All holes, openings in floors, decking, or ground must have properly secured covers or barricades.

- If roads are barricaded, or if excavations are within 6' of a roadway, caution lights must be used after dark.
- Barricades for exterior locations must be substantial enough to withstand adverse weather, such as high winds.

## **9. HOT-WORK RELATED ACTIVITIES**

### **9.1 Welding, Cutting and Grinding**

- Hot work is the use of equipment that has the potential to produce sparks or flames. Cutting, welding, grinding and other hot work use NFPA 51B, "Standard for Fire Prevention During Welding, Cutting and Other Hot Work," as a guideline for performing cutting, welding, grinding or other hot work.
- Coordinate hot work through B&W Pantex Fire Department.
- The B&W Fire Department will authorize all hot work by issuance of a PX-5394. The PX-5394 must be present, all personnel involved will know and understand the PX-5394, and requirements will be met.
- Perform all brazing, welding and cutting operations in compliance with 29 CFR 1926, "Subpart J – Welding, Cutting and Brazing".
- Before performing "hot work" (welding, cutting, etc.) or operating other flame

producing /spark-producing devices, contractors are required to provide at least one 10 pound ABC rated extinguishers for normal "hot work." Ensure all extinguishers have current inspection tag, approved safety pin and tamper resistant seal.

- Designate a **FIRE WATCH** for any "**Hot Work**" performed at the Pantex Plant. The continuous fire watch will be independent of personnel performing hot work activities. The Fire Watch shall remain at the hot work location for a minimum of 30 minutes after completion of the task or as specified on the hot work permit.

***Any fire, no matter how small, shall be reported to the fire department immediately.***

- The B&W Pantex Plant Fire Department may inspect work sites for compliance with hot work requirements.
- The Supervisor is responsible for performing pre-job inspections of hot work locations. The pre-job inspection will include the identification of potential fire hazards to aid in the determining of hazard controls. Employees are responsible for protecting any equipment and structures that could be damaged while performing hot work operations.

It will be the contractor's responsibility to walk down the hot work location to identify combustible/flammables in the area. The contractor will

remove any flammable/combustible material from locations involving the use of spark or flame producing equipment.

- In some cases, ventilation and respiratory protection may be provided to ensure worker exposures do not exceed any OSHA Permissible Exposure Limit (PEL). Consult with the Construction Safety Group to determine if respiratory protection or ventilation is required.

## **9.2 Compressed Gases**

### **General Requirements**

- Inspect hoses, fittings and couplings before each use. All gas bottles shall be equipped with flash arresters.
- Never couple and uncouple a pressurized hose that does not have a quick release device. Shut off the valve and bleed down the hose before disconnecting.
- Hoses shall be kept off the ground or floor whenever they interfere with walkways.
- All hoses over ½ - inch diameter shall have a pressure reduction safety device at the source of supply or branch in case of hose failure.
- Compressed gas cylinders must be secured in a vertical position with the protective cap on at all times while in transit.

- Compressed gas cylinders moved from one level to another must be in approved carts or racks. Never use slings or lift bottles by the protective cap.
- Consult with your supervisor if compressed gas cylinders are required in the MAAs
- The use of compressed gas cylinders at Pantex shall be coordinated in advance with Construction Safety or the assigned PSTR (B&W Reference: 06-0382-A).
- Compressed gas cylinders rated greater than 3,600 psi will not be allowed on the Pantex Plant (B&W Reference: 06-0382-A).
- Compressed gas cylinders equipped with valve protection caps shall have caps in place at all times. Caps will be hand tight, except when cylinders are in use or connected for use.
- Cylinders not designed to have a valve cap must be in a container to protect the valve assembly from damage during transport and use or be designed with valve protection (B&W Reference: 06-0382-A).
- Compressed gas cylinders shall be mechanically restrained at all times, except when being changed out, loading or unloading. Compressed gas cylinders shall not be changed out or unrestrained in Zone 4 magazines and Zone 12 MAA ramps, corridors, loading docks or facilities without the permission of the PSTR. The PSTR will

make notification to Operation Center when unrestrained movement is required (B&W Reference: 06-0382-A).

- Compressed gas cylinders brought into Zone 4 magazines or Zone 12 MAA ramps, corridors, loading docks, or facilities shall be restrained in a rack or cart, contained in a frame or container. For cylinders not designed for valve protection caps, the container frame shall extend past the valve assembly if the valve is not protected with a valve protection barrier (B&W Reference: 06-0382-A).

### 9.3 Motor Vehicles and Power Equipment

DOE regulations apply to **all vehicles** when driven on DOE property.

- Drivers must, at a minimum, have a valid State driver's license.
- All vehicles entering the Pantex Plant are subject to a safety inspection. Brakes, lights, glass, fuel systems, electrical systems, exhaust systems, tires, etc. must be in good condition.
- All personnel will obey posted speed limit signs, stop signs and other applicable traffic signs whether in their personnel vehicle or a contractor-owned vehicle. Reduce speeds as necessary for the safe operation of vehicles during inclement weather or poor road conditions.



- All personnel **must** wear seat belts while operating or riding in a vehicle on the Pantex site. **Seat belts are mandatory on the Pantex site.**
- **The driver is responsible for all passengers and materials being hauled.** The number of passengers in a vehicle shall not exceed the number the vehicle was designated to transport.
- Riding in the back of a truck is prohibited.
- Getting on or off vehicles while they are in motion is prohibited.
- **Vehicles shall stop and yield the right of way when meeting a vehicle displaying flashing lights.**
  - Drivers shall not proceed until the vehicle has passed well beyond their location, a minimum of 300 feet.
  - Passing these vehicles is prohibited.
- A flagger/spotter shall direct the backing of vehicles if the vehicles are large, in congested areas, or where vision is restricted.
- Never leave a vehicle unattended with the motor running.
- Refueling
  - Never smoke while refueling a vehicle.

- Bond equipment before starting to refuel
- Do not refuel equipment while it is running or when hot.

#### 9.4 Hoisting and Rigging



- All crane operations will meet the provisions identified in 29 CFR 1910.179 but more importantly the DOE Hoisting and Rigging Manual, DOE-Std-1090-2044, available on line at DOE.gov.
- The crane operator shall be familiar with the lift plan requirements and shall be familiar with the set up and controls on the crane.
- A lift plan (PX-4782) is required before performing any crane hoisting operations at Pantex. The lift plan is a detailed outline of how hoisting operations will be conducted.
- A lift plan will be required for forklift operations if the tines of the lift are extended above the roof of a building or across a ramp that could be occupied during the duration of the construction project. A Lift Plan is also required if any “Below the Tines” picks are necessary.
- It is the contractor’s responsibility to select and use the correct rigging hardware. Selection will include: working load limits, load angles, protection

of slings from cuts and pinch points and pre use inspections. All rigging will be performed under the supervision of a competent person.

- Rigging hardware will be properly stored while not in use.
- Slings shall be in accordance with OSHA and ANSI B30.9 "Slings."
- All crane operations and rigging equipment will meet the provisions identified in 29 CFR 1910.179, but more importantly the DOE Hoisting and Rigging Manual, DOE-Std-1090-2044, available on line at [www.doe.gov](http://www.doe.gov)
- Cranes or other equipment shall not be operated in a position where any part of the machine, suspended loads or lines can be brought closer than 10 feet from electrical lines, unless the current has been cut off and positive means (LOTO) is in place to prevent the line from being energized.
- All cranes must be equipped with two anti-blocking devices.
- All lift beams and spreader bars must be designed, fabricated, and used in accordance with OSHA and ANSI section B-30.20 requirements or applicable local code.
- All crane operations will meet the provisions identified in 29 CFR 1910.179, but more importantly the DOE Hoisting and Rigging

Manual, DOE-Std-1090-2044, available on line at [www.doe.gov](http://www.doe.gov).

- All wire rope slings, regardless of capacity, must have tags indicating the load rating. Alternately, the sling may be supplied with a unique identification number (serial number) corresponding to a material, testing and inspection record for that particular sling. The material, testing, and inspection records must be available to the field personnel.
- Rated capacities and recommended operating speed, special hazard warnings or instructions must be conspicuously posted on all equipment. Instructions or warnings shall be visible to the operator while he is at his control station.
- The current, annual crane inspection records must be with the crane, available for inspection.
- Lifting personnel by crane is prohibited.

### 9.5 Drilling Safety Guidelines

*(Compiled From API Recommended Practice 54, Third Edition, August 1999 and Environmental Remediation Drilling Safety Guide-line)*

- All auger or rotary drilling rigs must be inspected by a certified third party subcontractor inspection service before operation on Pantex Plant.



- The latest rig maintenance records must be with the drilling rig, available for inspection (any modification to the original design of the rig must be certified by the manufacturer).
- At a minimum, inspections will include assessing the rig for:
  - Structural members and welds for deformation, corrosion and cracks
  - Hardware (pins, shafts, gears, roller, locking devices, cylinders, etc.) for wear
  - Hydraulic lines (hoses, fittings, tubing, lines, etc.) for deformation, abrasion, and blistering
  - Pumps, PTO, and motors for leaks, missing bolts, and noises
  - Valves for cracks, leaks, and sticking
  - Cylinders for drifting, leaks, or damage
  - Winches, drums, and lines (cables) for abnormal wear, abrasions, or deformations
  - All defective items must be replaced and inspected by Industrial Safety before authorization is given to proceed with drilling.
- Verify emergency shutoff switch works.
- Ensure safety guards are in place and operational.

- All drillers must be licensed State of Texas Water Well Driller.
- Inspect tools before use and use tools for their intended use only.
- Do not use damaged tools.
- Never use excessive force on a tool. If excessive force is required, the wrong tool is being used.

Keep all tools clean and orderly stored when not being used. Do not leave tools on ladders or other overhead working spaces. Do not leave tools on the ground. Never throw or drop tools. Use hoists or hand lines to raise or lower tools.

- Personnel working at elevated heights are to wear a full restraining device to restrict fall to less than six feet.
- Technicians will not reach into or near pinch points, the borehole, or the rotating equipment, unless the drilling rig has been shut down.
- Shut down/lock out equipment and use full body safety harness if climbing mast is necessary.
- Define work zones so that personnel are 10 feet outside the fall-zone of all overhead rigging/tools.
- Perform good housekeeping. It is a proactive approach to keeping the job-site clean which in-turn reduces accidents and injuries.

- Secure all entanglement hazards (e.g., long hair, badges, loose clothing, etc.).
- Communicate kill switch location to all personnel.
- Perform noise monitoring.
- Confirm spill kit is available and staged in work zone; use plastic sheeting under rig to capture any hydraulic leaks.
- Rig repairs, when possible, shall be performed offsite to reduce risk of onsite incidents.

## **10. GENERAL SAFETY PROGRAMS**

### **10.1 Fall Protection**

B&W Pantex policy of 100% Fall Protection/Prevention means that falls are to be prevented at all times, and that employees will be provided some form of fall protection (e.g., full body harnesses, safety rails, etc.) to prevent a fall if it does occur.

- Full-body harness equipped with two side D-rings and at least one front and one back D-ring with shock absorbing lanyards will be worn whenever working without full preventative measures with a fall potential of 6 feet or greater.
- Anchors used for the attachments of personal fall arrest equipment shall be capable of supporting at least 5000 pounds per employee attached. Anchor points for

fall protection shall be structural members or horizontal lifelines as determined by a designated & competent fall protection person to ensure anchorage points have been properly identified. Please consult with your job site competent safety person should you have any questions regarding fall protection.

- Always inspect your fall protection equipment before each use. Take the time to make adjustments for a proper fit.
- Fall protection training will be the responsibility of the contractor.
- Tag defective equipment and remove from service.

#### **10.2 Lockout/Tagout (1910.147)**

- Per lockout/tagout requirements addressed in the Division I Specifications, Section 01500, the Contractor with the assigned B&W Pantex STR will coordinate all lockout/tagouts. The Contractor will initiate the PX-665 with drawings/sketches or other media and the STR will submit to the B&W Pantex Shutdown Coordinator. When the shutdown request is approved, B&W Pantex will assign the appropriate crafts to perform the required outages and will place locks and tags on the system. The Contractor and the STR will verify the outages are complete. Once verification is complete, in accordance with the boundaries identified on the PX-4347A, the Primary Subcontractor Authorized Employee (PSAE)

will perform and document a briefing to all persons working under the protection of the Lockout. Documentation must include a description of the reference used to communicate LOTO boundary information and all involved personnel will sign the PX-4347A. The STR will place a lock at the designated lockout/tagout location followed by the Contractor placing his green lock. Per B&W Pantex requirements, B&W Pantex locks first, the STR locks second, and the Contractor locks last. Locks will be removed in reverse order. The Contractor will assure all personnel working on a system requiring a shutdown have been trained per B&W Pantex lockout/tagout requirements.

- The contractor will be aware while closing panel door that all wiring in the panel are clear of pinch point potentials before the doors are closed.

#### **NFPA 70E**

- The level of Hazard Risk Category (HRC) PPE will be determined by the B&W Electric Shop based upon the PPE requirements for Plant Electricians when performing LO/TO activities in support of contractor work. Contractor personnel will wear the same level of PPE as a B&W employee.
- The level of PPE for electrical testing and trouble shooting will be based upon NFPA 70E per the voltage and / or NPFA 70E flash arc calculations of the system.

- The contractor has three options following the B&W Pantex LO/TO of the system. 1) The contractor can observe B&W Pantex verifying the outage or 2) the Contractor can donned the necessary NFPA 70E PPE and verify the outage or 3) the contractor can make arrangement to have B&W Pantex personnel lift the leads, this would eliminate verifying the outage daily.
- If the contractor opts to verify the outage, besides the NFPA 70E PPE requirements, contractor personnel performing verification of the lockout/tagouts will have testing equipment to verify the absence of energy after a lockout/tagout is complete.
- Contractor personnel are never permitted to work on energized circuits. Contractor personnel may be permitted to work in close proximity of energized circuits if justification for such work is deemed necessary by B&W Pantex. If justified, the contractor will obtain a Close Proximity Permit from B&W Pantex. The contractor will include their procedure for close proximity work, the personnel and their training records, and AHA for the specific work. If it is deemed necessary for close proximity work, those employees will be properly trained on the procedure and their company will have a testing and trouble shooting procedure and start up procedure on file with the Construction Safety Group. The "Close Proximity Permit" will have the specific conditions permitted for close proximity work. The specific conditions will include testing only. The "Close

Proximity Permit" will have the NFPA 70E PPE identified.

- B&W Pantex will perform all required lockout/tagouts in accordance with 29 CFR 1910.147 and site-specific requirements. Employees associated with B&W Pantex lockout/tagout need to be trained in accordance with the B&W Pantex lockout/tagout program.
- Take the time to assess all LOTOs and verify if mechanical LOTOs are needed in addition to electrical LOTOs.
- Contractor personnel are NOT AUTHORIZED to shutdown or start, open or close, energize or de-energize, any mainline utility system (electrical, high pressure fire loop, domestic water, sewer, steam, natural gas, compressed air) for any reason other than imminent danger.

### **Excavations and Trenching (1926.650 - 652)**

- The Contractor will have an excavation permit before performing any excavation activities at the site. The Construction Management Utility Locator before commencing excavation operations will mark all existing underground utilities. The Contractor will follow hand excavation procedures detailed in the Division I Specifications, while exposing existing underground utilities. Should, during the course of the excavating, the markings for buried utilities deteriorate due to weather or site grading, the contractor will cease excavation activities and contact the Construction Management Locator to physically re-mark all existing underground utilities. All open excavation will be barricaded. Any required utility outages will be coordinated with the assigned PSTR.
- The requestor and Utility Locating Technician have joint responsibility and will act as a team to define the scope of work associated with the excavation activities.
- Excavation and Penetration permits will be reviewed and approved by Section Manager or a higher authority before work is authorized.
- Coordinate a field walk down with all parties involved with the excavation. The walk down is intended to identify all target, interference and encroachment utilities in the excavation area.

- All open excavation will be barricaded with substantial material that will hold up under adverse weather conditions such as high winds.
- Any required utility outages will be coordinated with the STR.
- Contaminated soils areas are classified as Solid Waste Management Units (SWMU) or Waste Management Groups (WMG). These locations have known soil contaminants and require special permission from B&W Pantex before excavating. B&W Pantex must submit an interference request to the State of Texas before performing any excavation work in a contaminated soil area. No excavation work, hand or mechanical, shall be performed in a contaminated soil area without written permission from B&W Pantex.
- All excavation and trenching operations and work must conform to the excavation safety requirements in 29 CFR 1926, "Subpart P □ Excavations."
- Excavation safety requirements must include competent person inspections, techniques for classifying soil, excavation permits, locating and protection of underground utilities, barricading, access/egress, maintaining spoil material, benching/shoring and traffic control.

- All excavations greater than 5 feet or in unstable soil must be sloped to the angle of repose, stepped or shored according to 29 CFR 1926.652. If this can not be accomplished due to existing buried utilities in close proximity to the path of the trench or excavation, the contractor will use shoring or trench box. Tabulated Data will be submitted for review and approval before shoring or trench box is utilized.
- Spoil dirt must be piled at least two feet back from the edge of the excavation.
- Each excavation must be inspected daily by the competent person, Before allowing personnel access into the excavation. If evidence of cave-ins or slides is apparent or standing water exists in the excavations, all work in the excavation must cease until necessary precautions have been taken to safeguard employees.
- The competent person must be present before personnel enter any excavation.
- Where vehicles or equipment operate near excavations or trenches, the sides of the excavation must be shored or braced as required to withstand the forces exerted by the superimposed load. Equipment wheel stops (chocks) may be used to prevent equipment from inadvertently entering into an excavation.

- Safe access must be provided into all excavations by means of ladder, stairs, or ramps. Trenches 4 feet or more in depth must have ladders spaced so that employee's lateral travel does not exceed 25 feet. The top of the ladder must extend 3 feet above the grade level.
- Walkways or bridges with standard guardrails must be provided where employees or equipment are required or permitted to cross over excavations or trenches that are over 6' in depth.
- In locations where oxygen deficiencies or concentrations of hazardous or explosive gases or dust are possible, the atmosphere in the excavation must be tested before the start of work and continuously monitored as required to maintain a safe work environment.
- Open pits, trenches and other excavations shall be marked or flagged with high visibility flags or barricade warning devices. Use flagging materials that can withstand adverse weather conditions such as high winds.

#### **10.4 Penetration Permits**

- A "Penetration Permit Application" (PX-2872A) for all penetrations (Wall, Floor, Ceiling and Roof) must be submitted before performing any penetration.
- The Contractor will notify the assigned B&W Pantex STR before performing any

wall penetration operations. The Contractor, with assistance by the B&W Pantex STR, will submit a PX-2872A requesting a penetration permit and the proposed penetration locations will be marked. The PX-2872A will be submitted to the Construction Management Utility Locators and the locator will evaluate the penetration location and determine if a penetration permit is required. No wall penetrations will be performed unless authorized by B&W. Specific details associated with wall penetrations are covered in the Division I Specifications, Section 01500.

- Utilize as-built drawings when available to determine approximate location of concealed utilities or rebar.
- Complete a joint walk down of the area of drilling location to determine if any existing concealed utilities are present.
- Use a drill equipped with a mechanical drill stop when performing drilling operations in the existing concrete floor, walls or ceiling.
- Submit shutdown request to de-energize utilities within area being penetrated.

## **11. FIRE PROTECTION**

### **11.1 Extinguishers**

- “ABC” or “BC” rated dry chemical fire extinguishers, at least 10 lbs. in size, are required where flammable or combustible liquid fires or energized electrical fires may

occur. Fire extinguishers must be properly charged, sealed and have current inspection tags from an approved inspection station.

- Fire extinguishers must meet the provisions in NFPA 10 “Standard for Portable Fire Extinguishers, 2002 Edition” and NFPA 241. The Pantex Plant Fire Department may require additional extinguishers if necessary to provide rapid access or to offer sufficient protection.
- Travel distance from any work location to an extinguisher shall not exceed 50 feet. It must be closer in some cases, such as hot work or if flammable liquids are present.

### **11.2 Flammable & Combustible Materials**

Flammable liquids in containers other than the original shipping containers, must be in approved metal safety cans with spring closing covers and flame arresters or in portable tanks. Containers must be properly labeled and in an area free of ignition hazards.

Flammable liquids shall be stored in approved storage locations or approved flammable storage cabinets.

#### **Storage of Flammable and Combustible Liquids**

- Flammable or Class II Combustible liquids in quantities of five (5) gallons or less must be transported and stored in safety containers approved by a nationally recognized testing laboratory.

- Safety container must be equipped with a spring closing lid and internal spark arrestor.

### **11.3 Smoking**

Smoking is prohibited in all Pantex buildings and structures except in locations designated and approved by the B&W Pantex Plant Fire Department. Your supervisor may request permission to establish tobacco use areas from the B&W Pantex Plant Fire Department.

Failure to comply with smoking regulations will result in the loss of smoking privileges.

Smoke only in designated areas and put stubs in butt can. The B&W Pantex Fire Department will approve all smoking areas.

### **11.4 Emergency Services**

Notify the B&W Pantex Operations Center (5000) in the event of a medical emergency. The B&W Pantex Operations Center will summon the Pantex Plant Fire Department for emergency response. Emergency Medical treatment is required when:

- An employee loses consciousness or has pain or numbness in any portion of the body.
- An employee suffers cuts or abrasions that may require suturing by a physician.
- An employee has a bone that may be fractured or dislocated.

- \*An employee suffers second or third degree burns, including electrical, thermal and chemical burns, to any portion of the body.
- An employee experiences any chest pain, difficulty in breathing or stomach pain.
- An employee suffers allergic reactions to food products or insect stings.
- A snake bites an employee.

Patients requiring medical attention may first be taken to the B&W Pantex Occupational Medical Facility for stabilization before transportation to an emergency room or doctor.

#### **11.5 Evacuations**

- Contractor shall observe and participate in notices to evacuate the work area. The evacuation notices may be a drill or actual event. Provisions shall be made for evacuation of work-site personnel, as needed, to a pre-designated assembly area. All personnel on-site at the time of the evacuation shall be accounted for. No personnel re-entry will be allowed until the emergency conditions have been corrected or controlled, the hazards reassessed, and needed actions implemented.
- Before evacuating the work areas shut down or make safe equipment or processes, which could become a safety or fire hazard if left unattended, unless doing so endangers personnel.

- Contractor personnel working inside the LA, PA, or MAA will take direction from their Security Escort. Contractor personnel working in the PPA will have an excavation plan in place and coordinated with their assigned STR before commencing work in the area.
- If an emergency situation exists such as fire, injury, environmental damage, or explosion, **call 5000 for assistance**. The individual reporting the incident shall state his or her name, location, and type of emergency and location of the emergency.

## **12. WASTE MANAGEMENT**

Good housekeeping is the key to a safe construction site. Keep your work site clean and orderly with debris, scrap and waste removed as it is created and accumulated.

## **13. ENVIRONMENTAL PROTECTION/SWMUS**

Excavation and Solid Waste Management Units (SWMU): There are contaminated soil areas at Pantex. Contaminated soil areas are classified as Solid Waste Management Units (SWMU) or Waste Management Groups (WMG). These locations have known soil contaminants and will require special permission from not only B&W Pantex but also the State of Texas before excavating. B&W Pantex must submit an interference request to the State of Texas before performing any excavation work in a contaminated soil area. The interference request identifies the level of protection and training needed by the employee before performing excavation activities. If it is determined that 40-hour hazardous

iwaste training is needed, your supervisors will need to put together a Safety and Health Plan. Again, no excavation work, hand or mechanical, shall be performed in a contaminated soil area without written permission from B&W Pantex.

#### **14. ADVERSE WEATHER CONDITIONS**

- All exterior operations will be terminated when lightning personnel safety conditions are issued by the B&W Operations Center. Lightning personnel safety conditions are issued at 10-miles. The Contractor shall direct all site personnel to seek shelter inside company vehicles or buildings until warnings have been canceled.
- When Personnel Safety Conditions are issued, a representative of the Contractor shall determine if it is necessary to leave the work location until the warnings have been canceled.
- Elevated work, such as roof repairs or replacement, working on scaffolding, crane activities and the use of aerial lifts will cease when the wind exceeds 25 mph, including gust.
- Certain types of elevated work can be evaluated on a case-by-case basis, the type of work and location of elevated work will be the determining factor.
- The contractor shall be aware of weather conditions and weather forecasts to prevent work from commencing that could be cancelled or delayed due to adverse weather.

If tornado warnings are issued, the Contractor shall seek the best available shelter. If the Contractor is under a Security Escort, and a hardened structure is not accessible, the Contractor shall seek shelter in ditches, depressions, or culverts.

#### **15. EMERGENCY SERVICE PHONE NUMBERS**

|                                |                |
|--------------------------------|----------------|
| Operations Center              | 5000           |
| Medical Emergency              | 3333/5000      |
| Fire                           | 3333/5000      |
| Fire (Business Only)           | 4486/4487      |
| Construction Safety            | 5446/4228/3256 |
| Radiation Safety               | 4946           |
| Security                       | 3934/3922      |
| Medical (Physician)            | 3033           |
| Safety/Industrial              | 5114           |
| SWMU Interference Notification | 4058           |



