

## **VPPPA Safety and Health Achievement Workbook**

Completion of this workbook is necessary for consideration for the VPPPA Safety & Health Achievement Program. The following questions refer to OSHA standards and procedures, safety and health program management and Voluntary Protection Programs (VPP) requirements and procedures. A copy of the Occupational Safety and Health Standards for General Industry 29 CFR Part 1910 should be used to answer the questions regarding OSHA standards. This document is available at OSHA's Web site:

[www.osha.gov/pls/oshaweb/owastand.display\\_standard\\_group?p\\_toc\\_level=1&p\\_part\\_number=1910](http://www.osha.gov/pls/oshaweb/owastand.display_standard_group?p_toc_level=1&p_part_number=1910)

Questions are in the format of multiple choices, true-false and short answer. Please use the space provided in the workbook for your answers. If you require more space for short answer questions, submit them as a Word document in a separate file with the question title/number listed.

Submissions may be made by e-mail attachment to the Membership & Development Coordinator at [edavy@vpppa.org](mailto:edavy@vpppa.org). Completed workbooks can also be submitted on a portable storage device, such as a thumb drive or CD-ROM, which should be mailed to:

VPPPA, Inc.  
Attn: *Achievement Program*  
7600-E Leesburg Pike  
Suite 100  
Falls Church, VA 22043-2004

If electronic submission is not possible, printed workbooks may be mailed to the address above. All submissions must be received at the National office by May 7, 2012.

Please sign and date the following page. Making a copy before submitting your work is recommended.

# VPPPA Safety and Health Achievement Workbook

I am submitting this completed workbook in order to be considered for the VPPPA Safety and Health Achievement Program. I also verify that I am an hourly employee at a VPPPA member site and that I spend no more than 25% of my time on safety-related activities.

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## OSHA Standards and Procedures

Federal OSHA and states operating their own federally approved occupational safety and health programs require that each employer post certain materials at a prominent location in the workplace.

Please list four materials that must be posted in a prominent location.

1.

2.

3.

4.

Title 29, Chapter XVII of the Code of Federal Regulations is set aside for the Occupational Safety and Health Administration. Under Chapter XVII, the regulations are broken down into Parts. Part 1910, for example, is the standard you are familiar with, "Occupational Safety and Health Standards," commonly known as the "General Industry Standards." Under each part, such as Part 1910, major blocks of information are broken down into Subparts.

List what area or type of hazard is addressed by each subpart of 1910 next to the following:

Subpart D-  
Subpart E-  
Subpart F-  
Subpart G-  
Subpart H-  
Subpart I-  
Subpart J-  
Subpart K-  
Subpart L-  
Subpart M-  
Subpart N-  
Subpart O-  
Subpart P-  
Subpart Q-

Subpart R-  
Subpart S-  
Subpart Z-

Please circle one answer for the following multiple choice or true-false questions:

1. How were Federal Agencies handled by the OSH Act of 1970?
  - a) The OSH Act mandated the promulgation of standard (CFR 1960) for Federal Agency programs for occupational safety and health.
  - b) The OSH Act of 1970 covered only private industry.
  - c) The OSH Act provided, under a separate section, identical coverage for Federal Agencies.
  - d) The OSH Act mandates the use of programs by Federal Agencies to comply with all standards for private industry.
  - e) The OSH Act mandates programs that provide protection consistent with private industry.
  
2. What is the difference between horizontal and vertical standards?
  - a) Horizontal standards are those that apply to both private industry and the Federal Government. Vertical standards are particular to one or the other, and not both.
  - b) Horizontal standards apply to one Federal Agency. Vertical Standards apply only to private industry.
  - c) Horizontal standards are those with application only to the Federal Government. Vertical standards apply only to private industry.
  - d) Horizontal standards apply to all industries. Vertical standards apply only to a particular industry.
  - e) Horizontal standards cover general industry only. Vertical standards apply only to the construction industry.
  
3. The use of ladders can be found under which of the following headings of CFR 1910?
  - a) Walking - Working Surfaces
  - b) Personal Protective Equipment
  - c) Materials Handling and Storage
  - d) Means of Egress
  - e) General Environmental Controls
  
4. Stairways have a number of safeguarding requirements used to minimize, among other things, the danger of falling. Which of the following is not necessarily a requirement for stairway safety?
  - a) Guardrails at stairway openings.
  - b) Overhead protection on interior stairs.
  - c) Handrails on stairs with four or more risers.
  - d) Toe boards on open-sided stairs.
  - e) Platforms where doorways enter onto a stairway.

5. 29 CFR 1910, Subpart D, covers the safe use of walking and working surfaces. Which of the following is not considered under Subpart D?
- a) Stairways
  - b) Ladders
  - c) Handrails
  - d) Slippery floors
  - e) Workbenches
6. Which of the following is not a reason for the egress requirements of OSHA under CFR 1910, Subpart E?
- a) Bomb threats
  - b) Routine entry and exit from the workplace
  - c) Earthquakes
  - d) Poison gases
7. For heat-activated sprinkling systems, an alarm that relies on a water pressure drop in the system should not be used.
- True                  False
8. What is the purpose of ring-testing abrasive grinding wheels?
- a) A method of detecting cracks in the wheels
  - b) Checks the wheel diameter to assure proper size and mounting
  - c) Tests the rated capacity (in rpm) for the compatibility of the wheel and grinder
  - d) Checks the abrasive action to assure that older wheels are not overworked, causing failure.
  - e) A test of the grinder mounting for slippage and wobble
9. OSHA regulates the use of compressed air for cleaning purposes. What is the main reason for this and how is it regulated?
- a) Compressed air can cause increased noise exposure, and this is controlled by the use of sound-dampening nozzles.
  - b) Air hoses can rupture, causing the hose to "whip" and strike workers. Air lines must be equipped with pressure loss closure valves.
  - c) Compressed air blows particles and dust, causing eye and projectile hazards. Air must be used at reduced pressure with guarding.
  - d) Gases in compressed air can be toxic. Filters and gas absorbents must be used on air compressors.
  - e) Compressed air pushes oil mist from the lines into the air. Nozzles must be equipped with an oil precipitator to reduce the misting.

10. Subpart N of 29 CFR 1910 deals with the safety aspects of the storage and handling of materials. Which of the following is not considered by Subpart N?
- a) Flammables storage
  - b) Fork lift trucks
  - c) Hoisting equipment
  - d) Railroad cars
  - e) Battery charging
11. Guarding is required for all types of machinery. Which of the following pieces of equipment would not normally require guarding?
- a) Table saw
  - b) Power transmission gears
  - c) Power hoist
  - d) Band saw
  - e) Punch press
12. Under Subpart L, Fire Prevention Plan generally includes all of the following components, except:
- a) Housekeeping
  - b) Maintenance of equipment
  - c) Identification of fuels and ignition sources
  - d) Employee training
  - e) Medical staff
13. What is the difference between a floor "hole" and a floor "opening?"
- a) A hole requires guardrails, and an opening must be covered with a hinged door and provided with removable guardrails.
  - b) A hole is at least 12 inches on each side. An opening is smaller than 12 inches on each side.
  - c) A hole is too small for an adult body to fall through. An opening is large enough that a person could fall through.
  - d) A hole can be any size and is covered by material of adequate strength. An opening is a large open area that must have guardrails.
14. Which of the following best describe the term "egress" as applied by OSHA?
- a) The way to, through, and away from an exit.
  - b) A specially designated exit or escape.
  - c) A function of the fire protection requirements of a building.
  - d) Non-portable fire protection, such as a sprinkling system.
  - e) The emergency discharge from a building.

15. Welding frequently requires the use of a multitude of personal protection means. Which of the following examples of equipment is not applicable to most welding situations?
- a) Non-reflective curtains
  - b) Burn-resistant clothing
  - c) Eye protection
  - d) Supplied-air respirator
  - e) Ventilation
16. Hand and portable power tools, as considered by OSHA under Subpart P, may include all of the following except?
- a) Power presses
  - b) Pneumatic screw guns
  - c) Lawn mowers
  - d) Jacks
  - e) Abrasive grinders

### **OSHA Enforcement Activity**

There are a number of different types of violations and citations. Define the following:

1. De minimus:
  
  
  
  
  
  
  
  
  
  
2. Nonserious violations:
  
  
  
  
  
  
  
  
  
  
3. Serious violations:
  
  
  
  
  
  
  
  
  
  
4. Imminent danger violation:
  
  
  
  
  
  
  
  
  
  
5. Willful and repeated violations:
  
  
  
  
  
  
  
  
  
  
6. Failure to abate violations:

## Accident Investigation

After reading the following two cases, please briefly list solutions to prevent this type of incident from occurring.

### CASE I

A maintenance man was working on a metal stair platform and wanted to use a 1/4-inch electric drill. The drill had a three-wire power cord. An extension cord running from the source of power also was a three-wire cord, but was not long enough. In order to connect the drill to the extension cord, the man obtained another short extension cord from the tool crib. As the man started to drill, he was electrocuted.

#### GUIDE AND BACKGROUND INFORMATION FOR CASE I

The drill and cord were in proper working order, no shorts. Also, the extension from the power source was okay. However, the extension cord from the tool crib had been improperly wired. The grounding lead had been connected to the "hot" terminal, so that the frame of the drill was energized. When the man grasped the grounded metal stair platform, he was electrocuted.

Following are other pertinent facts:

1. The maintenance man was not standing on damp or wet ground. The area was dry.
2. The extension cord was made up by a tool crib attendant.
3. There were no rules in effect concerning procedure for maintenance and repair of equipment.
4. The cord had not been tested.

**Briefly describe what caused the accident, and what could have been done to prevent this accident or similar accidents in the future.**



## CASE II

A freight handler attempted to sharpen the point of a bale hook on a grinding wheel. The foreman of the department saw him, but assumed that "anybody can use a little bench grinder." The freight handler caught the point of his hook between the tool rest and the wheel. The wheel broke and a large piece of it struck him in the face. He was permanently disabled by the injury.

### GUIDE AND BACKGROUND INFORMATION FOR CASE II

The bench grinder was properly guarded and mounted. Also, the wheel was properly tested before mounting.

Following are other pertinent facts:

1. The tool rest was properly set 1/8-inch from the wheel.
2. Eye protection was available, but not used (goggles).
3. The eye shield was not in place.
4. There was no plant regulation regarding unauthorized use of equipment.
5. The freight handler was not from this foreman's department.
6. A grinding wheel of this type is proper for sharpening bale hooks.

**Briefly explain what could have been done to prevent this accident or similar future accidents.**

## **General Workplace Safety and Health**

**Electrical Safety - Information helpful in completing the following section can be found in 29 CFR Part 1910, or the National Electric Code.**

Please define the following terms relating to electrical safety.

INSULATORS:

CONDUCTORS:

SEMICONDUCTORS:

GROUNDING:

A circuit-protection device is an electrical component that protects against major electrical damage or fire. It prevents current overload by melting, tripping or otherwise opening to break the electrical circuit.

List 3 circuit-protection devices:

Please list the primary hazards associated with electricity and its use.

## The Control of Hazardous Energy (Lockout/Tagout)

Please circle the correct response:

1. A worker may use any sturdy lock to apply a lockout.  
True                      False
2. In a lockout, one person is allowed to attach a single lock for an entire work crew.  
True                      False
3. Before lockout/tagout procedures are followed, all workers in the affected area must be notified.  
True                      False
4. After equipment has been isolated from its power sources, it's still necessary to control any energy stored in the system.  
True                      False
5. In a tagout, the energy-isolating device is placed in the safe position and a written warning is attached to it.  
True                      False
6. Each individual employee can decide whether to use either lockout or tagout procedures.  
True                      False
7. Engineering safety features are foolproof ways of protecting workers from hazardous energy.  
True                      False
8. Before removing lockout/tagout devices, you must make sure the danger area is clear of tools and workers.  
True                      False
9. Turning off the power switch removes all energy from powered equipment.  
True                      False

List the six steps in applying energy controls for Lockout/Tagout procedures.

When should you Lock/ Tagout?

### **Bloodborne Pathogens**

1. A written Exposure Control Plan should contain the following three elements:
2. What does "Universal Precautions" mean?
3. List five major tactics to reduce your risk of exposure to bloodborne pathogens on the job.
4. What is a sharps container used for?
5. What does the Biohazard Warning Sign look like? Please sketch

**General Workplace Safety and Health Terms**  
**Information helpful in completing the following section may be found in Title 29 CFR Part 1910.**

Define the following:

MEANS OF EGRESS

LOW HAZARD CONTENTS

HIGH HAZARD CONTENTS

ORDINARY HAZARD CONTENTS

EMERGENCY ACTION PLAN



**Source of hazard of light or radiation from welding, brazing, or torch soldering.**

A. Assessment of Hazard: (Please describe possible hazard from activity described above.)

B. Personal Protective Equipment necessary: (Please describe PPE needed for activity described above.)

**Source of hazard from heat resulting from furnace operations.**

A. Assessment of Hazard: (Please describe possible hazard from activity described above.)

B. Personal Protective Equipment necessary: (Please describe PPE needed for activity described above.)

**Source of hazard resulting from handling chemicals.**

A. Assessment of Hazard: (Please describe possible hazard from activity described above.)

B. Personal Protective Equipment necessary: (Please describe PPE needed for activity described above.)

## Hazard Communication

1. Hazard communication is often referred to as the \_\_\_\_\_ law.
2. MSDS stands for \_\_\_\_\_.
3. Name the sections listed on an MSDS:

4. Please indicate what the following abbreviations relating to Hazard Communication stand for, and give a definition of each one.

TLV -

PEL -

STEL -

5. Define “ceiling value” as it relates to hazard communication.
6. The Hazard Communication Standard focuses on five main areas. Please list these areas:



## **Safety and Health Training**

You are responsible for developing a training class for your facility for the following topics:

1. Fire Safety
2. Back Safety
3. Hazard Communication

For each topic, include an outline of an agenda for the training class listing information that will be covered in the class.

**Safety and Health Training** (continued)

## Ergonomics

1. Define the following terms:

**Cumulative Trauma Disorders**

**Carpal Tunnel Syndrome**

**Anthropometry**

**Biomechanics**

**Tendon**

2. Safety engineers will always know more about solving ergonomic-related problems than the operators performing the work. (Please circle)

True            False

3. Acute injuries have very long cause and effect relationships. (Please circle)

True            False

4. The engine of human movement is the shortening of muscle, which is connected to a lever (the bone) by a cable (the tendon). (Please circle)

True            False

5. Ergonomic problems may arise when workstations, equipment or tools do not fit the \_\_\_\_\_.

6. Most ergonomic injuries/illnesses are caused by forceful or \_\_\_\_\_ motion



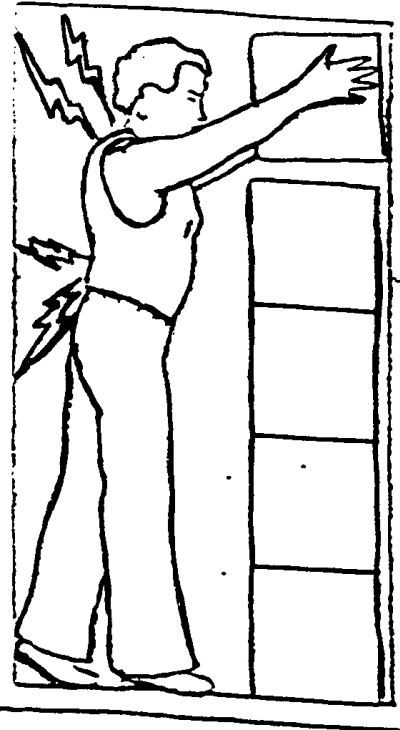
Refer to the attached pictures of an operator performing a task, and complete the following ergonomics checklist. Use the results of this checklist to suggest improvements in the job design.

(Answer yes or no to the following questions.)

### Picture 1

1. Is the operator pushing, pulling, or lifting objects using his/her whole body? \_\_\_\_\_
2. Does the operator manipulate large, heavy, or awkward objects including parts, tools and scrap? \_\_\_\_\_
3. Are the fingers used to trigger a tool or machine? \_\_\_\_\_
4. Does the operator hold parts or tools using a pinch grip? \_\_\_\_\_
5. Does the operator continually hold a single object during the cycle? \_\_\_\_\_
6. Is the wrist bent or twisted during the job cycle? \_\_\_\_\_
7. Does the operation require the use of palm buttons? \_\_\_\_\_
8. Does the operator have his/her arms raised or winged out? \_\_\_\_\_
9. Does the operator bend or twist his/her neck? \_\_\_\_\_
10. Does the operator work below mid-thigh height or above mid-chest height? \_\_\_\_\_
11. Does the operator twist his/her body? \_\_\_\_\_
12. Does the operator lean over his/her work? \_\_\_\_\_

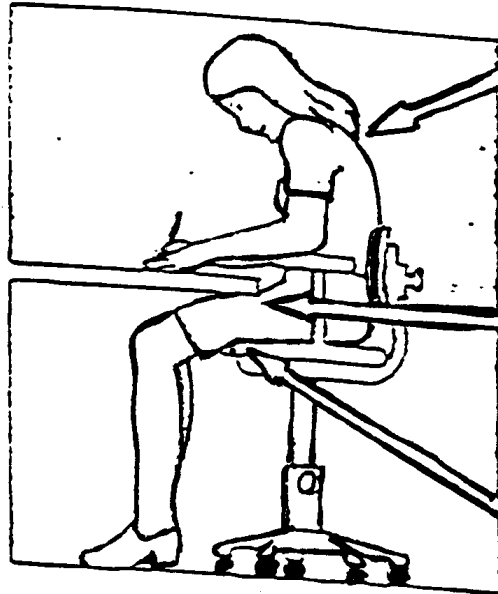
Picture 1 Comments and Suggested Improvements:



## Picture 2

1. Is the operator pushing, pulling, or lifting objects using his/her whole body? \_\_\_\_\_
2. Does the operator manipulate large, heavy, or awkward objects including parts, tools and scrap? \_\_\_\_\_
3. Are the fingers used to trigger a tool or machine? \_\_\_\_\_
4. Does the operator hold parts or tools using a pinch grip? \_\_\_\_\_
5. Does the operator continually hold a single object during the cycle? \_\_\_\_\_
6. Is the wrist bent or twisted during the job cycle? \_\_\_\_\_
7. Does the operation require the use of palm buttons? \_\_\_\_\_
8. Does the operator have his/her arms raised or winged out? \_\_\_\_\_
9. Does the operator bend or twist his/her neck? \_\_\_\_\_
10. Does the operator work below mid-thigh height or above mid-chest height? \_\_\_\_\_
11. Does the operator twist his/her body? \_\_\_\_\_
12. Does the operator lean over his/her work? \_\_\_\_\_

Picture 2 Comments and Suggested Improvements:





**Picture 3**

1. Is the operator pushing, pulling, or lifting objects using his/her whole body? \_\_\_\_\_
2. Does the operator manipulate large, heavy, or awkward objects including parts, tools, and scrap? \_\_\_\_\_
3. Are the fingers used to trigger a tool or machine? \_\_\_\_\_
4. Does the operator hold parts or tools using a pinch grip? \_\_\_\_\_
5. Does the operator continually hold a single object during the cycle? \_\_\_\_\_
6. Is the wrist bent or twisted during the job cycle? \_\_\_\_\_
7. Does the operation require the use of palm buttons? \_\_\_\_\_
8. Does the operator have his/her arms raised or winged out? \_\_\_\_\_
9. Does the operator bend or twist his/her neck? \_\_\_\_\_
10. Does the operator work below mid-thigh height or above mid-chest height? \_\_\_\_\_
11. Does the operator twist his/her body? \_\_\_\_\_
12. Does the operator lean over his/her work? \_\_\_\_\_

Picture 3 Comments and Suggested Improvements:



## Hazard Assessment, Prevention and Control

1. Briefly describe a system for employees to report safety concerns. Include a method for ensuring concerns are addressed in your system.
2. What should always be done before new equipment is installed, or new processes are introduced in a facility?
3. Briefly describe the role of an industrial hygienist in hazard assessment.
4. As a precaution to lessen the chance of mechanical failure that might result in injuries, schedules of \_\_\_\_\_ should be developed.
5. What type of analysis can you perform to discover if there is one cause responsible for many incidents at a facility?

Give an example of a case where this type of analysis may be performed.

6. List three methods of protecting employees from a hazard or minimizing opportunity for injury or illness.

## **Safety Inspections**

Consider the type of things someone performing a safety inspection should be looking for. List at least 4 things under each heading that need to be part of a Safety Inspection check list.

A. Machinery and Equipment

B. Materials Handling and Storage

C. Hand and Portable Power Tools

D. Fire Protection Systems and Equipment

E. Housekeeping

F. Electrical

## **Employee Involvement**

A new manufacturing plant has just opened. Management and hourly associates have met to establish a joint safety committee.

Briefly list the guidelines you would establish for the committee if you were responsible for developing this safety committee.

What records need to be available for OSHA to review, to demonstrate employee involvement in the VPP?

# General Duty Clause

1. What is the General Duty Clause?
  
2. What is OSHA's Criteria for Issuing a General Duty Clause Citation?
  
3. An employer can be found to be in violation of the general duty clause if it can be shown that:
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.
  
4. Name five hazards that could be cited under OSHA's General Duty Clause?
  - 1.
  - 2.
  - 3.
  - 4.
  - 5.

## VPP Procedures and Requirements

1. To qualify for participation in the Star Program, a company's three-year average total injury incidence rate, as reflected on the site's OSHA 300 log, must be **at** or below the industry average. (Please circle)
2. True                      False
3. While participating in the VPP, do employees give up any of their rights of protection guaranteed by the OSH Act?
4. Once a site is approved into the VPP, can the site move from:
5. (Please circle)
  - a) Merit to Star status?              Yes                      No
  - b) Star to Merit status?              Yes                      No
6. Can a site remain in the Merit program indefinitely? (Please circle)  
  
True                      False
7. Which of the following documents must be available for review by the OSHA VPP onsite team:
  - a) A written safety and health program
  - b) Annual self-evaluations of safety and health program
  - c) OSHA 300 log or summary of the log
  - d) All of the above
8. What are the four major elements that must be present in a site's safety and health program for participation in the VPP?
9. Participation in the VPP results in the removal of a site from the OSHA general scheduled inspection list. Are there any circumstances (other than VPP re-certifications) in which OSHA will conduct an inspection of a VPP site? Please explain.

As of September 2010