

# OSHA TRAINING GUIDELINES



## COVERING

**1910 GENERAL INDUSTRY  
1926 CONSTRUCTION INDUSTRY  
1925 MARITIME INDUSTRY**



*Due to the constant change of government regulations, it is impossible to guarantee 100% accuracy of the information contained herein. This booklet is designed to provide reasonably accurate training standards in regards to the subject matter. This publication does not itself alter or determine compliance responsibilities, which are set forth in the Occupational Safety and Health Administration (OSHA) standards and/or the Occupational Safety and Health Act. All information published herein is gathered from sources which are thought to be reliable, but the reader should not assume that the information is official or final. AIT does not assume responsibility for errors, and all information is subject to change due to changing interpretations and enforcement policies without notice.*

## **Requirements from the General Industry Standards**

### **Employee Emergency Plans and Fire Prevention Plans (1910.38)**

(a.5.i) Designate and train a sufficient number of people to assist in the emergency evacuation of employees.

(a.5.ii) Review the plan with covered employees: (A) when the plan is developed; (B) whenever the employee's responsibilities change; and (C) whenever the plan is changed.

(a.5.iii) Review with employees, upon initial assignment, parts of the plan they must know in the event of an emergency. The written plan must be kept at the workplace and made available to employees. Employers with 10 or fewer employees may communicate the plan orally.

(b.4.i) Apprise employees of the fire hazards to which they are exposed.

(b.4.ii) See (a.5.iii).

### **Powered Platforms for Building Maintenance (1910.66)**

(i.1.i) Only those proficient in the operation of a particular platform can operate a working one.

(i.1.ii.) Employees operating working platforms must be trained in recognizing and preventing safety hazards and knowing emergency action plans, work procedures and how to take care of personal fall arrest systems.

(i.1.iii) A competent person must perform the training.

(i.1.iv) Provide written work procedures for employee training.

(i.1.v) Certify employee training.

### **Occupational Noise Exposure (1910.95)**

(i.4) Provide training in the use and care of all hearing protectors. explosives must not be parked on any public street near any place where people work, even if the vehicle is attended.

(k.1) Institute a training program for all employees exposed to noise at or above an eight-hour time-weighted average (TWA) of 85 decibels (dB), and ensure that every employee participates.

(k.2) Repeat the training program annually for employees included in the hearing conservation program. Update information in the program to keep it current and consistent with standards.

(k.3) Ensure employees are informed of: (i) the effects of noise on hearing; (ii) the purpose of hearing protectors, the advantages, disadvantages and attenuation of various types, and instruction on selection, fitting, use and care; and (iii) the purpose of audiometric testing and an explanation of the test procedures.

### **Flammable and Combustible Liquids (1910.106)**

(b.5.vi.V.2) Post detailed flood emergency instructions.

(b.5.vi.V.3) Inform station operators who carry out flood instructions of the location of valves and other pertinent equipment.

### **Explosives and Blasting Agents (1910.109)**

(d.3.i) Drivers of explosives carriers must be familiar with traffic regulations and state laws.

(d.3.ii) Except under emergency conditions, vehicles carrying explosives must not be parked on any public street near any place where people work, even if the vehicle is attended.

(d.3.iii) Attendants must be aware of materials in the truck and what measures to take to protect the public from danger.

(g.3.iii) Operators of bulk delivery vehicles carrying blasting agents must be trained in the safe operation of the vehicle, and its related equipment, as well as the material being delivered.

(g.6.ii) Drivers of vehicles carrying packaged blasting agents must be familiar with vehicle and traffic laws.

(h.4.ii.B) Operators of bulk delivery and mixing vehicles must be trained in the safe operation of the vehicle and its related equipment.

### **Storage and Handling of Liquefied Petroleum Gases (1910.110)**

(b.16) Train personnel performing installation, removal, operation and maintenance work.

### **Storage and Handling of Anhydrous Ammonia (1910.111)**

(b.13.ii) Instruct personnel unloading tank cars.



### **Process Safety Management of Highly Hazardous Chemicals (1910.119)**

- (g.1) Initially train all employees involved in a process and newly assigned to a process as specified in (f).
- (g.2) Provide refresher training at least every three years and more often, if necessary, for all employees operating a process.
- (g.3) Document training and include the identity of the employee, the date of training and the means used to verify that the employee understood the training.
  - (h.3.i) Contract employers must assure employees are trained in safe work practices.
  - (h.3.ii) Contract employers must instruct employees about potential hazards of their jobs and ensure they know the emergency action plan.
  - (h.3.iii) Contract employers must document training and prepare a record identifying the employee, the date of training and the means used to verify the training was understood.

### **Hazardous Waste Operations and Emergency Response (1910.120)**

- (e.1.i) Train employees exposed to any hazardous situations before they engage in them.
  - (e.2) Training must cover the following: (i) names of personnel and alternates responsible for site safety and health; (ii) safety and health hazards present on the site; (iii) use of personal protective equipment; (iv) work practices that minimize risks; (v) safe use of engineering controls and equipment; (vi) medical surveillance requirements; and (vii) contents of (g-j) of the plan set forth in (b.4.ii).
  - (e.3.i) General site workers engaging in any hazardous activity must receive 40 hours of off-site instruction and a minimum of three days supervised field experience.
  - (e.3.ii) Workers on-site occasionally must receive 24 hours of off-site instruction and one day of supervised field experience.
  - (e.3.iii) Workers who work in nonhazardous areas must receive 24 hours of off-site instruction and one day of supervised field experience.
  - (e.3.iv) Workers in (e.3.ii) and (e.3.iii) must receive 16 additional training hours when they become general site workers or are required to wear respirators.
- (e.4) Supervisors responsible for employees engaging in hazardous operations must receive 40 hours of initial training.
- (e.5) Trainers must complete a training program.
- (e.6) All trained employees and supervisors must be given a written training certificate.
- (e.7) Train emergency response employees in how to respond to expected emergencies.
- (e.8) Employees specified in (e.1) and (e.4) must receive eight hours of refresher training annually.
- (e.9) Employers who can document that an employee's work experience equals the training required in (e.1-4) do not have to provide initial training requirements.
  - (o.1) Develop and implement procedures for the introduction of effective new technologies and equipment used to protect employees working with hazardous waste cleanup operations.
    - (p.7.i) Develop a training program with 24 hours of refresher training and eight hours annual training for employees exposed to health hazards. Issue a written certificate upon completion.
    - (p.7.ii) Refer to (e.9).
    - (p.7.iii) Trainers must complete a training course or have academic credentials.
  - (p.8.iii) Refer to (e.7).
- (q.4) Temporary skilled support personnel do not need training.
- (q.5) Specialist employees must prove their competency in their specialization annually.
  - (q.6) Train emergency response employees in the following: (i) first responder awareness level; (ii) first responder operations level; (iii) hazardous materials technician; (iv) hazardous materials specialist; and (v) on-scene incident commander.
  - (q.7) Refer to (p.7.iii).

(q.8) Employees trained in (q.6) must receive annual refresher

### **General Requirements of Personal Protective Equipment (1910.132)**

(f.1) Train employees using PPE in the following: (i-ii) when and what PPE is necessary for the workplace; (iii) how to put on, remove, adjust and wear the PPE; and (iv-i) the limitations, proper care, maintenance, life expectancy and disposal of the PPE.

(f.2) Employees must demonstrate that they understood their training prior to performing work.

(f.3) Retrain employees when: (i and ii) changes occur in the workplace or types of PPE; and (iii) inadequacies exist in the employee's knowledge of PPE.

(f.4) Verify employee training with a certificate.

### **Respiratory Protection (1910.134)**

(c.3) A program administrator qualified by appropriate training or experience must be designated to administer the written respiratory protection program.

(c.4) The employer must provide training at no cost to employees.

(d) Respirator users must receive fit testing according to the exact type of respirator they will be using.

(k) Training and information. (1) Employers must ensure that each employee can demonstrate knowledge of at least the following: (i) the reasons why a respirator is necessary and how improper fit, usage or maintenance can compromise its protective effect; (ii) respirator limitations and capabilities; (iii) how to use a respirator effectively in emergency situations, including situations in which the respirator malfunctions; (iv) how to inspect, put on, remove, use and check respirator seals; (v) procedures for respirator maintenance and storage; (vi) how to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and (vii) the general requirements of this section.

(k.2) The training must be conducted in a manner that is understandable to the employee.

(k.3) Employers must provide the training prior to requiring the employee to use a respirator in the workplace.

(k.4) Employers who can demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in (k.1.i-vii) is not required to repeat the training, provided that, as required by (k.1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

(k.5) Retraining must be administered annually, and when: (i) changes in the workplace or the type of respirator used render previous training obsolete; (ii) inadequacies in the employee's knowledge or use of the respirator indicate that the requisite understanding or skill has not been retained; or (iii) any other situation arises in which retraining appears necessary to ensure safe respirator usage.

(k.6) The basic advisory information on respirators, as presented in Appendix D of this section, must be provided by employers in any written or oral format to employees who wear respirators when such use is not required by this section or the employer.

### **Temporary Labor Camps (1910.142)**

(k.2) First aid facilities must be run by a person trained to administer first aid.

### **Accident Prevention Signs and Tags (1910.145)**

(c.1.ii) Employees must be instructed that danger signs indicate immediate danger.

(c.2.ii) Employees must be instructed that caution signs indicate a possible hazard.

### **Permit-Required Confined Spaces (1910.146)**

(g.1) Train employees on the knowledge and skills necessary for safe performance in this area.

(g.2) Training must be given to affected employees: (i) before their first assigned duties; (ii) before there is a change in assigned duties; (iii) whenever a change in permit space operations causes a hazard that an employee has not previously been trained on; and (iv) whenever the employer believes there are deviations from the procedures in (d.3) or inadequacies in employee knowledge.

(g.3) Training must establish employee proficiency and introduce new or revised procedures when necessary.

(g.4) Certify employee training.



### **The Control of Hazardous Energy (Lockout/Tagout) (1910.147)**

(a.3.ii) When other standards in this part require lockout/Tagout, they must be used and supplemented by procedural and training requirements.

(c.6.i.C) Periodic inspection of tagout used for energy control must include a review between the inspector and authorized employees.

(c.7.i) Training must include: (A) recognizing and controlling applicable hazardous energy sources; (B) the purpose and use of energy control procedures; and (C) instruction to employees not affected.

(c.7.ii) Employees must know the following about tags: (A) that they are warning devices without physical restraint; (B) that they must not be removed without authorization; (C) that they must be legible and understandable; (D) that they must withstand environmental conditions; (E) that they may evoke a false sense of security; and (F) that they must be securely attached to energy isolating devices.

(c.7.iii) Retrain employees when: (A) a change in job assignments, machines, equipment or processes occurs; (B) periodic inspections reveal inadequacies; and (C) there is a need to reestablish employee proficiency.

(c.7.iv) Certify employee training.

(c.8) Lockout/tagout must be performed only by authorized employees.

### **Medical Services and First Aid (1910.151)**

(b) When medical aid is not nearby, a person or persons must be trained to give first aid.

### **Fire Brigades 1910.156**

(c.1) Provide training and education for brigade members before they perform emergency activities. Training instructors and fire brigade leaders must receive more comprehensive training.

(c.2) Train brigade members at least annually, and train members expected to perform interior structural fire fighting duties quarterly.

(c.3) The training and education program should be similar to programs conducted by fire training schools.

(c.4) Inform fire brigade members about special hazards to which they may be exposed, as well as changes to specific hazards during emergencies. Employers must provide written procedures.

### **Portable Fire Extinguisher (1910.157)**

(g.1) When portable fire extinguishers are provided for employees, also provide an education program on how to use them.

(g.2) This education must be given upon initial employment and annually thereafter.

(g.3) Train designated employees in the use of appropriate fire fighting equipment.

(g.4) This training must take place upon initial assignment and annually thereafter.

### **Fixed Extinguishing Systems, General (1910.160)**

(b.10) Train personnel designated to inspect, operate or repair these systems and annually review their training.

### **Servicing Multi-Piece and Single-Piece Rim Wheels (1910.177)**

(c.1) Train employees who service rim wheels. Safety procedures are as follows: (i) employees must not service rim wheels unless trained in the correct procedures; (ii) training must include the applicable data contained in charts and contents of this standard; and (iii) employees must be instructed in an understandable manner.

(c.2) Employees must demonstrate the ability to service rims safely, including the following: (i) demounting tires; (ii) inspecting and identifying rim wheel components; (iii) mounting tires; (iv) using a restraining device or barrier; (v) handling rim wheels; (vi) inflating a tire when a single-piece rim wheel is mounted; (vii) understanding when it is necessary to stand outside the trajectory; and (viii) installing and removing rim wheels.

(c.3) Evaluate employees' performance of these tasks.

(f) Establish and train employees in safe operating procedures for servicing multipiece rim wheels. Procedure elements include: (1) deflating and demounting tires by removing the valve core; (2) deflating tires by removing the valve core before the rim wheel is removed from the axle: (i) when the tire has been driven underinflated at 80 percent or less of the recommended pressure; and (ii) when there is obvious

damage to the tire or wheel components; (3) applying rubber lubricant to bead and rim mating surfaces; (4) providing remote control inflation equipment so that underinflated tires with more than 80 percent recommended pressure can be inflated while the rim wheel is on the vehicle; (5) inflating tires outside restraining devices only to the pressure sufficient to force the tire bead onto the rim ledge; (6) not resting or leaning on equipment when a rim wheel is in a restraining device; (7) inspecting the tire and wheel components after inflation while still within the restraining device; (8) not hammering the seating of side and lock rings while the tire is pressurized; (9) not reworking or welding damaged rim components; and (10) staying out of the trajectory when wheels are handled.

(g) Establish and train employees in safe operating procedures for servicing single-piece rim wheels. Procedure elements include: (1) deflating tires by removing the valve core before demounting; (2) mounting and demounting done from the narrow ledge side of the wheel; (3) applying nonflammable rubber lubricant to the bead and wheel mating surfaces before rim wheel assembly; (4) inflating the tire to the minimum pressure necessary to force the tire bead onto the rim ledge if using a tire changing machine; (5) removing the bead expander before the valve core is installed; (6) inflating tires only when contained within a restraining device, positioned behind a barrier or bolted on a vehicle; (7) not inflating tires when a flat, solid surface is within one foot of the sidewall; (8) staying out of the trajectory when inflating a tire; (9) not inflating tires more than the inflation pressure stamped in the sidewall; (10) not inflating tires above the manufacturer recommended maximum pressure; (11) not applying heat; and (12) not reworking or welding any damaged wheels.

### **Powered Industrial Trucks (1910.178)**

(l) Operator training. (1) Safe operation. (i) Employers must ensure that each powered industrial truck operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation specified in this paragraph.

(l.1.ii) Prior to permitting an employee to operate a powered industrial truck (except for training purposes), employers must ensure that each operator has successfully completed the training required by this paragraph (l), except as permitted by (l.5).

(l.2) Training program implementation. (i) Trainees may operate a powered industrial truck only: (A) Under the direct supervision of those who have the knowledge, training and experience to train operators and evaluate their competence; and (B) where such operation does not endanger the trainee or other employees.

(l.2.ii) Training must consist of a combination of formal instruction (e.g., lecture, discussion, interactive computer learning, video tape, written material), practical training (demonstrations performed by the trainer and practical exercises performed by the trainee) and evaluation of the operator's performance in the workplace.

(l.2.iii) All operator training and evaluation must be conducted by those who have the knowledge, training and experience to train powered industrial truck operators and evaluate their competence. (l.3) Training program content. Powered industrial truck operators must receive initial training in the following topics, except when the employer can demonstrate they are not applicable to safe operations in the employer's workplace.

(l.3.i) Truck-related topics include: (A) operating instructions, warnings and precautions for the types of trucks the operator will be authorized to operate; (B) differences between the truck and the automobile; (C) truck controls and instrumentation such as where they are located, what they do and how they work; (D) engine or motor operation; (E) steering and maneuvering; (F) visibility (including restrictions due to loading); (G) fork and attachment adaptation, operation and use limitations; (H) vehicle capacity; (I) vehicle stability; (J) any vehicle inspection and maintenance the operator will be required to perform; (K) refueling and/or charging and recharging of batteries; (L) operating limitations; and (M) any other operating instructions, warnings or precautions listed in the operator's manual for the types of vehicles the employee is being trained to operate. (l.3.ii) Workplace-related topics include: (A) surface conditions where the vehicle will be operated; (B) composition of loads to be carried and load stability; (C) load manipulation, stacking and unstacking; (D) pedestrian traffic in areas where the vehicle will be operated; (E) narrow aisles and other restricted places where the vehicle will be operated; (F) hazardous (classified) locations where the vehicle will be operated; (G) ramps and other sloped surfaces that could affect the vehicle's stability; (H) closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust; and (I) other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.

(l.3.iii) The requirements of this section.



(I.4) Refresher training and evaluation. (i) Refresher training, including an evaluation of the effectiveness of that training, must be conducted as required by (I.4.ii) to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.

(I.4.ii) Refresher training in relevant topics must be provided to the operator when: (A) the operator has been observed operating the vehicle in an unsafe manner; (B) the operator has been involved in an accident or near-miss incident; (C) the operator has received an evaluation that reveals the truck is not being operated safely; (D) the operator is assigned to drive a different type of truck; or (E) a condition in the workplace changes in a manner that could affect the safe operation of the truck.

(I.4.iii) An evaluation of each powered industrial truck operator's performance must be conducted at least once every three years.

(I.5) Avoidance of duplicative training. If an operator has previously received training in a topic specified in (I.3) and such training is appropriate to the truck and working conditions encountered, additional training is not required if the operator has been evaluated and found to be competent to operate the truck safely.

(I.6) Certification. Employers must certify that each operator has been trained and evaluated as required. The certification must include the name of the operator, the date of the training, the date of the evaluation and the identity of the person(s) performing the training or evaluation.

(I.7) Dates. Employers must ensure operators are trained, as appropriate, by the following dates: employees hired before December 1, 1999 - by December 1, 1999; employees hired after December 1, 1999 - before assignment.

(I.8) Appendix A provides nonmandatory guidance to assist employers in implementing this paragraph (I). Please consult a complete copy of the standard for more information.

#### **Overhead and Gantry Cranes (1910.179)**

(n.3.ix) When two or more cranes are used, a qualified person must be in charge of the operation.

(o.3) Familiarize operators with the care and use of the fire extinguisher provided.

#### **Crawler Locomotive and Truck Cranes (1910.180)**

(i.5.ii) Operating and maintenance personnel must be made familiar with the use and care of the fire extinguisher provided.

#### **Mechanical Power Presses (1910.217)**

(e.3) Train maintenance personnel.

(f.2) Train operators in safe methods of work.

(h.13.i) Operator training in (f.2) must include instruction for presses in the presence sensing device initiation (PSDI) mode. Instructions include: (A) manufacturer's test procedures for checking operations; (B) safety distance; (C) operation, function and performance of the PSDI mode; (D) requirements for hand tools; and (E) severe consequences resulting from by-passing any safeguards.

(h.13.ii) Certify employee training.

#### **Forging Machines (1910.218)**

(a.2.iii) Train personnel on the inspection and maintenance procedures of this equipment.

#### **Oxygen-Fuel Gas Welding and Cutting (1910.253)**

(a.4) Deem employees in charge competent to do their work before leaving them in control.

#### **Arc Welding and Cutting (1910.254)**

(a.3) Instruct and qualify workers.

#### **Resistance Welding (1910.255)**

(a.3) Instruct workers and deem them competent.

#### **Pulp, Paper and Paperboard Mills (1910.261)**

(h.3.ii) Instruct workers on the use of chlorine absorbing gas masks.

#### **Laundry Machinery and Operations (1910.264)**

(d.1.v) Instruct employees about the hazards and safe practices of their work.

#### **Pulpwood Logging (1910.266)**

(i.1) Train employees and supervisors at no cost.



(i.2) Training must be provided as follows: (i) as soon as possible for current employees and new employees; (ii) before new employees' initial assignment; (iii) when new work or equipment is assigned; and (iv) when employees demonstrate unsafe performance.

(i.3) Training must consist of: (i) the safe performance of work tasks; (ii) the safe use, maintenance and understanding of tools, machines and vehicles; (iii) the ability of employees to recognize and prevent hazards in their work; (iv) the ability of employees to recognize and prevent hazards in the logging industry; (v) procedures, practices and requirements of the employer's work site; and (vi) the requirements of this standard.

(i.4) Training can be limited to (i.3) when employees show unsafe performance or when new equipment or work is assigned.

(i.5.i) Current employees trained in (i.3) are not required to be retrained in those elements.

(i.5.ii) New employees trained in (i.3) are not required to be retrained in those elements before initial assignment.

(i.5.iii) Train all employees in elements for which they have not received training.

(i.5.iv) Ensure all employees can properly and safely perform their duties.

(i.6) Each new employee and employee trained under (i.2) must work under the supervision of a designated person until the employee demonstrates the ability to perform new duties alone.

(i.7.i) Each employee and supervisor must receive first aid and CPR training.

(i.7.ii) Employees' first aid and CPR certification must remain current.

(i.8) A designated person must conduct training.

(i.9) Training must be easily understandable.

(i.10) Certify employee training.

### **Telecommunications (1910.268)**

(b.2) Teach employees emergency procedures for working with storage batteries.

(c) Train employees on safe practices before they start work. Training must include: (1) recognizing and avoiding dangers; (2) emergency procedures; and (3) first aid and CPR training.

(j.4.iv.D) Derrick operators must be trained.

(l.1) Train employees exposed to high voltages.

(o.1.ii) A person with first aid training must be readily available during manhole work.

(o.3) A person with first aid training must be readily available when the manhole worked on is occupied by an electric and telecommunications utility.

(q.1.ii) Employees engaged in line-clearing operations must be instructed that: (A) direct contact is made when the body touches energized electrical fixtures; (B) indirect contact is made when the body touches an object that is in contact with energized fixtures; (C) indirect contact can be made through conductive tools, tree branches or other objects; and (D) electrical shock occurs when there is direct or indirect contact with any energized conductor.

(q.2.ii) only qualified employees or trainees can perform work when electrical hazards exist.

(q.2.iii) A second qualified employee must be present during tree working operations where an electrical hazard of more than 750V exists.

### **Grain Handling Facilities (1910.272)**

(e.1) Train employees annually or when assignments change. Training must include: (i) general safety precautions and preventive measures associated with the facility; and (ii) specific safety practices applicable to employees' jobs.

(e.2) Train employees assigned to special tasks.

(g.5) Train observing employees in rescue procedures.

(i.2) Explain emergency provisions to contractors.

### **Electrical Safety-Related Work Practices (1910.332)**



(b.1) Train employees in the safe work practices required by 1910.331-335 that pertain to their respective job assignments.

#### **Qualifications of Dive Team (1910.410)**

(a.1) Train dive team members.

(a.2) Train members in: (i) the use of equipment and systems;

(ii) techniques of the assigned diving mode; and (iii) diving operations and emergency procedures.

(a.3) Train members in CPR and first aid.

(a.4) Train members exposed to hyperbaric conditions.

(b.1) Members must be given tasks according to their training.

(c.2) Train the designated person-in-charge in diving operations.

#### **Bloodborne Pathogens (1910.1030)**

(G)(2) Information and Training. (i) Employers shall ensure that all employees with occupational exposure to bloodborne pathogens, Hepatitis B or other potentially infectious materials participate in a training program which must be provided at no cost to the employee and during working hours.

(ii) Training shall be provided as follows: (A) At the time of initial assignment to tasks where occupational exposure may take place; (B) Within 90 days after the effective date of the standard; (C) At least annually thereafter;

(iii) For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided.

(iv) Annual training for all employees shall be provided within one year of their previous training.

(v) Employers shall provide additional training when changes such as modification of tasks or procedures or institution of new tasks or procedures affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created.

(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

(vii) The training program shall contain at a minimum the following elements: (A) An accessible copy of the regulatory text of the standard and an explanation of its contents; (B) A general explanation of the epidemiology and symptoms of bloodborne diseases; (C) An explanation of the modes of transmission of bloodborne pathogens; (D) An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan; (E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials; (F) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment; (G) Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment; (H) An explanation of the basis for selection of personal protective equipment; (I) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge; (J) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials; (K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available; (L) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident; (M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and (N) An opportunity for interactive questions and answers with the person conducting the training session.

(viii) The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

(ix) Additional Initial Training from Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements. (A) The employer shall assure that employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HIV or HBV. (B) The employer shall assure that employees have prior experience in the handling of human pathogens or tissue



cultures before working with HIV or HBV. (C) The employer shall provide a training program to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

### **Air Contaminants**

The following standards, which include training requirements

Carcinogens (1910.1003-1910.1016)  
Vinyl Chloride (1910.1017)  
Inorganic Arsenic (1910.1018)  
Cadmium (1910.1027)  
Benzene (1910.1028)  
Coke Oven Emissions (1910.1029)  
Cotton Dust (1910.1043)  
1,2-Dibromo-3-Chloropropane (DBCP) (1910.1044)  
Acrylonitrile (1910.1045)  
Ethylene Oxide (1910.1047)  
Formaldehyde (1910.1048)  
Methylenedianiline (1910.1050)  
1,3-Butadiene (1910.1051)  
Methylene Chloride (1910.1052)  
Asbestos (1910.1001)  
Lead (1910.1025)

### **Ionizing Radiation (1910.1096)**

(f.3.viii) Employees in an area covered by an emergency signal must be made familiar with its sound.

(i.2) Inform employees in radiation areas of radioactive materials. Instruct them in safety problems and protective provisions, and advise them of radiation exposure reports.

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

(h.1) Train employees about hazardous chemicals in their work area.

(h.2) Inform employees of: (i) the requirements of this section; (ii) operations where hazardous chemicals are present; and (iii) the location of the written hazard communication program and the material safety data sheets.

(h.3) Employee training must include: (i) methods used in detecting the presence of hazardous chemicals; (ii) hazards of chemicals in the workplace; (iii) protective measures; and (iv) details of the hazard communication program.

### **Occupational Exposures to Hazardous Chemicals in Laboratories (1910.1450)**

(f.4.i) Employee training must include: (A) methods used to detect the presence of a hazardous chemical; (B) hazards of the chemicals in the work area; and (C) measures employees can take to protect themselves.

## **Requirements from the Construction Standards General Safety and Health Provisions (1926.20)**

(b.2) Competent people must inspect job sites.

(b.4) Only qualified employees can operate equipment and machinery.

### **Safety Training and Education (1926.21)**

(a) The Secretary of OSHA establishes and supervises safety training programs for employers and employees.

(b.1) Employees must avail themselves to the programs provided.

(b.2) Train employees to recognize and avoid unsafe conditions, as well as comply with safety regulations.

(b.3) Instruct employees in the safe handling and use of harmful substances.

(b.4) Instruct employees exposed to harmful plants or animals on potential hazards and first aid procedures.

(b.5) Instruct employees required to handle or use toxic materials on safety techniques and specific OSHA requirements.

(b.6.i) Train employees before they enter confined spaces.

### **Medical Services and First Aid (1926.50)**

(c) If an infirmary or hospital is not easily accessible, a person trained in first aid must be available at the worksite.

### **Ionizing Radiation (1926.53)**

(b) Properly trained people must perform activities that involve radioactive materials or X-rays.

### **Nonionizing Radiation (1926.54)**

(a) Trained employees must install and operate laser equipment.

(b) Operators must have proof of qualification accessible.

### **Hearing Protection (1926.101)**

(b) A competent person must determine ear protective devices.

### **Respiratory Protection (1926.103)**

Same as (1910.134).

### **Fire Protection (1926.150)**

(a.5) When necessary, employers must provide a trained and equipped fire fighting organization.

(c.1.viii) Comply with "Maintenance and Use of Portable Fire Extinguisher," NFPA No.10A-1970.

### **Power-Operated Handtools (1926.302)**

(e.1) Train employees using powder-actuated tools. (e.12) Employee's tools must meet American National Standards Institute (ANSI), A10.3-1970, "Safety Requirements for Explosive-Actuated Fastening Tools."

### **Woodworking Tools (1926.304)**

(f) All tools must meet other requirements of ANSI, 01.1-1961, "Safety Code for Woodworking Machinery."

### **Gas Welding and Cutting (1926.350)**

(d) Instruct employees in the safe use of fuel gas. (j) Additional rules apply to technical portions of ANSI, Z49.1-1967.

### **Arc Welding and Cutting (1926.351)**

(d) Instruct arc welders and cutters as follows: (1) when electrode holders are left unattended, remove electrodes and protect holders to avoid contact with employees; (2) do not dip hot electrode holders in water; (3) open the power supply switch when leaving or stopping work; (4) report any defective equipment to the supervisor; and (5) see 1926.406(c) for additional requirements.

### **Fire Prevention (during welding, cutting or heating) (1926.352)**

(e) When normal fire prevention precautions are insufficient, use additional trained personnel to guard work.



## **Welding, Cutting and Heating in Ways of Preservative Coatings (1926.354)**

(a) Competent people must determine welding surface flammability.

## **Ground-Fault Protection (1926.404)**

(b.1.iii.B) Designate one or more competent people (as defined in 1926.32(f)) to implement the assured equipment grounding conductor program.

## **Scaffolding (1926.451)**

(a.6) Scaffolds must be designed by a qualified person. (b.10) Scaffold components manufactured by different manufacturers cannot be modified to intermix them unless a competent person determines the resulting scaffold is structurally sound. (b.11) Scaffold components made of dissimilar metals cannot be used together unless a competent person determines that galvanic action will not reduce the strength of any component below that required by (a.1).

(d.3.i) Before the scaffold is used, direct connections must be evaluated by a competent person to confirm that the supporting surfaces can support the loads. In addition, masons' multipoint adjustable suspension scaffold connections must be designed by an experienced engineer.

(d.18) Two-point and multipoint suspension scaffolds must be tied or otherwise secured to prevent them from swaying, as determined to be necessary by a competent person.

(e.9.i) Employers must provide a safe means of access for each employee erecting or dismantling a scaffold where the provision is feasible and does not create a greater hazard. A competent person must make this determination.

(f.3) Scaffolds and components must be inspected for visible defects by a competent person before each work shift and after any occurrence that could affect structural integrity.

(f.7) Scaffolds can be erected, moved, dismantled or altered only under the supervision and direction of a qualified competent person. Such activities can be performed only by experienced and trained employees selected by the competent person.

(g.2) A competent person must determine the feasibility and safety of providing fall protection for employees erecting or dismantling supported scaffolds.

## **Steel Erection (1926.761)**

The following provisions supplement the requirements of 1926.21.

(a) Training personnel. A qualified person(s) must provide the training required by this section.

(b) Fall hazard training. Provide a training program for all employees exposed to fall hazards. The program must include training and instruction in: (1) the recognition and identification of fall hazards in the work area; (2) the use and operation of guardrail systems (including perimeter safety cable systems), personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems and other protection to be used; (3) the correct procedures for erecting, maintaining, disassembling and inspecting the fall protection systems to be used; (4) the procedures to be followed to prevent falls to lower levels and through or into holes and openings in walking/working surfaces and walls; and (5) the fall protection requirements of Subpart R.

(c) Special training programs. In addition to the training required in (a-b), the employer must provide special training to employees engaged in the following activities:

(c.1) Multiple lift rigging procedure. Ensure that each employee who performs multiple lift rigging has been provided training in the following areas: (i) the nature of hazards associated with multiple lifts; and (ii) the proper procedures and equipment to perform multiple lifts required by 1926.753 (e).

(c.2) Connector procedures. Ensure that each connector has been provided training in the following areas: (i) the nature of hazards associated with connecting; and (ii) the establishment, access, proper connecting techniques and work practices required by 1926.756 (c) and 1926.760 (b).

(c.3) Controlled decking zone (CDZ) procedures. Where CDZs are used, the employer must ensure that each employee has been provided training in: (i) the nature of the hazards associated with work within a CDZ; and (ii) the establishment, access, proper installation techniques and work practices required by 1926.760 (c) and 1926.754 (e).

## **Appendix E**

### **Training: Non-mandatory Guidelines for Complying with 1926.761**

The training requirements of 1926.761 will be deemed to have been met if employees have completed a training course on steel erection, including instruction in the provisions of this standard, that has been approved by the U.S. Department of Labor Bureau of Apprenticeship.

#### **Subpart M - Fall Protection Training Requirements (1926.503)**

(a.1) Train employees exposed to fall hazards. (a.2) Employees must be trained by a competent person qualified in the following: (i) the nature of fall hazards; (ii) procedures for erecting, maintaining, disassembling and inspecting fall protection systems; (iii) the use and operation of guardrail systems, personal fall arrest systems, safety net systems, warning line systems, safety monitoring systems, controlled access zones and other protection; (iv) the role of employees in the safety monitoring system; (v) the limitations of mechanical equipment during low-sloped roofing work; (vi) procedures for handling equipment and the erection of overhead protection; (vii) the role of employees in fall protection plans; and (viii) standards contained in this section.

(b.1) Certify employee training.

(b.2) Maintain the latest training certification.

(c) Retrain employees when: (1) changes occur in the workplace; (2) changes occur in fall protection systems; and (3) their knowledge is inadequate.

#### **Cranes and Derricks (1926.550)**

(a.1) Comply with manufacturer specifications and limitations in the operation of cranes and derricks.

(a.5) Competent people must inspect all machinery prior to use.

(g.4.i.A) Competent engineers must design personnel platforms and suspension systems.

(g.5.iv) Competent people must inspect equipment immediately after a trial lift.

#### **Material Hoists, Personnel Hoists and Elevators (1926.552)**

(a.1) If manufacturers' specifications are unavailable, a competent engineer must determine the specifications.

(b.7) Licensed professional engineers must design material hoist towers.

(c.15) Competent people must supervise the inspections of hoist functions and safety devices.

(c.17.i) Registered engineers must approve personnel hoists in bridge tower construction and a competent engineer must supervise its erection.

#### **Material Handling Equipment (1926.602)**

(c.1.vi) Industrial trucks must meet ANSI B56.1-1969, "Safety Standards for Powered Industrial Trucks."

#### **Site Clearing (1926.604)**

(a.1) Instruct employees about available first aid treatment.

#### **Concrete and Masonry Construction (1926.701)**

(a) Qualified people must determine that a concrete structure can support construction loads.

#### **Requirements for Cast-in-Place Concrete (1926.703)**

(b.8.i) Qualified designers must design shoring, and a qualified engineer must inspect it.

#### **Underground Construction (1926.800)**

(d) Instruct all employees in: (1) air monitoring; (2) ventilation; (3) illumination; (4) communications; (5) flood control; (6) mechanical equipment; (7) personal protective equipment; (8) fire prevention and protection; and (9) emergency procedures.

#### **Compressed Air (1926.803)**

(a.1) A competent person must be present at all times.

(a.2) Instruct employees in rules of safety.

(b.10.xii) Train medical lock attendants in the lock's use and treatment of employees.

(e.1) Instruct first time employees going under air pressure on how to avoid excessive discomfort.

(h.1) A competent person must always be on duty at air control valves.



**Chutes (1926.852)**

(c) A competent employee must control the operation of the gate and the backing and loading of trucks.

**General Provisions (blasting and the use of explosives) (1926.900)**

(a) Only authorized and qualified people can handle explosives.

(q) A competent person must direct and supervise loading and firing.

**Blaster Qualifications (1926.901)**

(c) Blasters must be determined by their training and knowledge of explosives.

**Surface Transportation of Explosives (1926.902)**

(b) Only physically fit, licensed drivers can transport explosives.

(i) Train drivers on the use of the extinguisher in the vehicle.

**Firing the Blast (1926.909)**

(a) Employees must be familiar with codes of warning signals.

**General Requirements (power transmission and distribution) (1926.950)**

(e.1) Train employees in: (i) emergency situation procedures; and (ii) first aid and CPR.

**Overhead Lines (1926.955)**

(e.1) Train employees in the live-line bare-hand technique and safety requirements.

(e.4) Trained people must supervise all work.

**Ladders (1926.1060)**

(a) Train employees on using ladders and stairways. (a.1) Training must include: (i) the nature of fall hazards; (ii) procedures for erecting, maintaining and disassembling fall protection systems; (iii) proper construction in the handling of stairways and ladders; (iv) maximum intended load-carrying capacity; and (v) standards contained in this part.

(b) Retrain if necessary.

## **Requirements from the Maritime Standards Shipyard Employment Competent Person (1915.7)**

(b.1) Designate one or more competent people in accordance with the requirements of this section.

(c) Ensure the competent person: (1) understands instructions from Marine Chemists, Coast Guard authorized persons and Certified Industrial Hygienists; (2) knows Subparts B, C, D and H; (3) knows the structure and location of work spaces; (4) can calibrate and use testing equipment; (5) can perform tests and inspections; (6) can inspect and test spaces; and (7) can maintain records.

### **Precautions Before Entering Confined and Enclosed Spaces and Other Dangerous Atmospheres (1915.12)**

(a.1) A competent person must inspect oxygen content prior to entry.

(b.1.i) A competent person must inspect the space for the presence of combustible or flammable liquids.

(b.1.ii) A competent person must test the concentration of flammable vapors in the space.

(c.1.i.) A competent person must inspect for the presence of toxic, corrosive or irritant residue in the space.

(c.1.ii) A competent person must test the concentration of toxics, corrosives or irritants in the space.

### **Cleaning and Other Cold Work (1915.13)**

(b.2) A competent person must test for flammable, combustible, toxic, corrosive or irritant vapors.

(b.7) A competent person must test ventilation discharge areas.

### **Hot Work (1915.14)**

(b.1) A competent person must test: (i) dry cargo holds; (ii) bilges; (iii) engine room and boiler spaces; (iv) vessels and vessel sections; and (v) land-side confined and enclosed spaces.

### **Painting (1915.35)**

(b.8) A competent person must inspect power lighting cables to ensure the condition of insulation.

### **Fire Prevention (1915.52)**

(b.3) Assign additional personnel to operations where normal fire prevention is insufficient. Train these personnel on fire hazards and fire fighting equipment.

(c) Instruct personnel who contain fires on fire hazards and fire fighting equipment.

### **Gas Welding and Cutting (1915.55)**

(d) Instruct employees in the safe use of fuel gas.

### **Arc Welding and Cutting (1915.56)**

(d) Instruct employees on the safe means of arc welding and cutting.

### **Uses of Fissionable Material (1915.57)**

(b) Competent, trained people must perform activities involving radioactive materials.

### **First Aid (1915.98)**

(a) If first-aid rooms are not nearby, furnish a first aid kit for each vessel. Keep at least one qualified employee near the kit to administer first aid.

### **Ropes, Chains and Slings (1915.112)**

(c.5) A qualified person must supervise chain repairs.

### **Powered Industrial Truck Operator Training**

Same as 1910.178.

### **Powder Actuated Fastening Tools (1915.135)**

(c) Instruct operators to: (1) inspect a tool's cleanliness and moving parts before use; (2) stop using any defective tool; (3) load tools right before the intended firing time and not leave them unattended; (4) not point a tool at anyone; (5) hold the tool in the operating position for 15 seconds in case of misfire; and (6) not leave tools or powder charges unattended.

### **General Requirements (1915.152)**

(e.1) Employers must provide training to each employee required by this section to use PPE (except training in the use of personal fall arrest systems and positioning device systems, which is covered in 1915.159 and 1915.160). Each employee must be trained to understand: (i) when PPE is necessary; (ii) what PPE is



necessary; (iii) how to properly don, doff, adjust and wear PPE; (iv) the limitations of PPE; and (v) the proper care, maintenance, useful life and disposal of PPE.

(e.2) Employers must ensure that each employee demonstrates the ability to use PPE properly before being allowed to perform work requiring its use.

(e.3) Employers must retrain employees who do not understand or display the skills required by (e.2). Situations that may require retraining include: (i) changes in occupation or work that render previous training obsolete; (ii) changes in the types of PPE to be used that render previous training obsolete; and (iii) inadequacies in an employee's knowledge or use of PPE that indicate the requisite knowledge or skills have not been retained. (e.4) Employers must verify that employees have received training through a document that contains the name of each employee trained, the date(s) of training and the type of training received.

**Marine Terminals Fumigants, Pesticides, Insecticides and Hazardous Preservatives (1917.25)**

(e.2) Instruct personnel about the hazards and precautions to take when entering a space that contains a hazardous atmosphere.

**Personnel (1917.27)**

(a.1) Only trained personnel can operate a crane, winch or other power operated cargo handling apparatus, or any power operated vehicle, or give signals to operators.

(b) Supervisors of more than five people must complete an accident prevention course.

**General Rules Applicable to Vehicles (1917.44)**

(o.3) Only employees trained in procedures in (o.4) and who have the ability to service multi-piece rim wheels can be assigned such duties.

**Terminal Facilities Handling Menhaden and Similar Species of Fish (1917.73)**

(d) Train the plant superintendent and foremen in the hazards of hydrogen sulfide and oxygen deficiency and the use of protective equipment and rescue procedures.

**Welding, Cutting and Heating (1917.152)**

(c.4) Instruct all employees engaged in hot work operations of fire hazards and the use of fire fighting equipment.