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## Construction Industry Training Requirements OSHA 1926 --Federal

### ***Accident prevention responsibilities 1926.20(b)(4)***

**Qualified Operator:** The employer shall permit only those employees qualified by training or experience to operate equipment and machinery.

### ***Safety training and education 1926.21(b)***

Employer shall establish & supervise programs for the education & training of employers and employees in the recognition, avoidance and prevention of unsafe conditions.

- Employer should avail himself of the safety and health training programs offered by the Secretary.
- Each employee shall be instructed in the recognition and avoidance of unsafe conditions and the regulations applicable to his work environment to control or eliminate any hazards or other exposures to illness or injury.
- Employees required to handle or use poisons, caustics and other harmful substances shall be instructed regarding safe handling and use, and be made aware of the potential hazards, personal hygiene, and personal protection measures required.
- At job site areas where harmful plants or animals are present, employees who may be exposed shall be instructed regarding the potential hazards, how to avoid injury, and the first aid procedures to be used in the event of injury.
- Employees required to handle or use flammable liquids, gases or toxic materials shall be instructed in the safe handling and use of these materials and made aware of specific requirements.
- All employees required to enter into confined or enclosed spaces shall be instructed as to the nature of the hazards involved, the necessary precautions to be taken and in the use of protective and emergency equipment required, the employer shall comply with any specific regulations that apply to work in dangerous or potentially dangerous areas.

### ***Access to employee exposure and medical records 1926.33(g)(1)***

Upon initial employment and annually thereafter, each employee shall be informed of:

- Existence, location, availability of exposure and medical records
- Person responsible for maintaining records and providing access
- Employee right to access distribute informational materials

### ***Employee emergency action plans 1926.35(e)***

The employer shall designate and train a sufficient number of employees to assist in the safe and orderly emergency evacuation of employees.

- Plan shall be reviewed with each employee, at the following times:
  - initially when the plan is developed
  - whenever employee's responsibilities or designated actions under the plan change
  - whenever the plan changes
- Review emergency plan and hazards with all affected employees (portion of the plan which employee must know to protect oneself in the event of an emergency)
- Written plan must be available for employee review (10 or less employees -- plan may be communicated orally)

### ***First aid 1926.50(c)***



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In the absence of an infirmary, clinic, hospital or physician, reasonably accessible in terms of time and distance to the worksite, a person who has a valid certificate in first aid training shall be available at the worksite to render first aid.



## ***Ionizing radiation 1926.53(i)(2)***

All individuals working in or frequenting any portion of a radiation area shall be informed of the occurrence of radioactive materials or of radiation in such portion of the radiation area, to include:

- Instruction in the safety problems associated with exposure to such materials or radiation and precautions or devices to minimize exposure
- Instruction in the applicable provisions for protection from exposure to radiation or radioactive materials
- Advised of reports of radiation exposure and their right to request

## ***Non-ionizing radiation 1926.54(a) & (b)***

- Only qualified and trained employees shall be assigned to install, adjust and operate laser equipment
- Proof of qualification of the laser equipment operator shall be available and in possession of the operator at all times

## ***Ventilation: open surface tanks 1926.57(i)(9)***

All employees working in and around open-surface tank operations must be instructed as to the hazards of their respective jobs, PPE and first aid procedures.

## ***Hazard communication 1926.59(h)***

- Provide employees with effective information and training on hazardous chemicals in their work area at the time of initial assignment and whenever a new physical or health hazard not previously trained is introduced into their work area
- Information and training may be designed to cover categories of hazards or specific chemicals
- Chemical specific information must always be available through labels and MSDS's
- Employees shall be informed of:
  - the requirements of this section
  - any operations in their work area where hazardous chemicals are present
  - location and availability of written hazcom program, including the required lists of hazardous chemical and MSDS's
- Employee training shall include at least:
  - methods and observations that may be used to detect the presence or release of a hazardous chemical in the work area
  - physical and health hazards of chemicals in the work area
  - measures employees can take to protect themselves from these hazards including specific procedures the employer has implemented to protect employees from exposure to hazardous chemicals, such as appropriate work practices, emergency procedures and PPE
  - details of the hazcom program, including explanation of the labeling system and MSDS's, how employees obtain and use the appropriate hazard information

## ***Lead 1926.62(l)***

*Training program:*

- Employees who may potentially be exposed to lead must be informed of contents of appendices A and B



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- Employer shall institute a training program for all and assure the participation of all employees who are subject to exposure to lead at or above the action level or for whom the possibility of skin or eye irritation exists
- Employer shall provide training prior to the time of initial job assignment, and at least annually
- Each affected employee shall be informed of the following:
  - content of standard and appendices
  - specific nature of the operations which could result in exposure to lead above the action level
  - purpose and description of the medical surveillance program and the medical removal protection program including information concerning the adverse health effects associated with excessive exposure to lead (including reproductive effects)
  - engineering controls and work practices associated with the employee's job assignment
- contents of any compliance plan in effect and instructions to employees that chelating agents should not routinely be used to remove lead from the body and should not be used at all except under direction of licensed physician

*Access to information and training materials (shall be readily available to all affected employees):*

- copy of standard and appendices
- materials relating to the employee information and training program

## ***Process safety management of highly hazardous chemicals 1926.64(g), (h)***

*Initial training:*

- Overview of the process and operating procedures, to include:
  - specific safety and health hazards
  - emergency operations
  - shutdown procedures
  - safe work practices

*Refresher training:*

- Provided every 3 years or as necessary

*Training documentation:*

- Understanding of training must be ascertained
- Training documentation must be kept

*Contractors:*

- Pertains to those contractors performing maintenance, repair, turnaround, major renovation or specific work on or adjacent to a covered process

Employer responsibilities:

- inform contract employees of known potential hazards
- explain applicable portions of emergency action plan
- develop and implement safe work practices to control entrance, presence and exit of contract employees in covered process areas
- periodically evaluate contractor performance
- maintain contract employee injury/illness log

Contract employer responsibilities:

- train each contract employee in safe work practices
- instruct each contract employee in known potential hazards and applicable portions of emergency action plan
- maintain documentation of employee understanding of training



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- assure all contract employees follow safety rules and safe work practices of facility
- advise employer of unique hazards presented by contractor's work

## ***Hazardous waste operations and emergency response 1926.65(b)(1)(iv), (e), (q)***

### *Contractors and sub-contractors:*

An employer who retains contractor or sub-contractor services for work in hazardous waste operations shall inform those contractors, sub-contractors or their representatives of the site emergency response procedures and any potential fire, explosion, health, safety, or other hazards of the hazardous waste operation that have been identified by the employer's information program.

### ***On-site:***

All employees working on site exposed to hazardous substances, health hazards or safety hazards and their supervisors and management responsible for the site shall receive training meeting the requirements outlined below before they are permitted to engage in hazardous waste operations that could expose them to hazardous substances, safety or health hazards.

### *Elements to be covered:*

- Names of personnel and alternates responsible for site safety and health
- Safety, health and other hazards present on the site
- Use of PPE
- Work practices by which the employee can minimize risk from hazards
- Safe use of engineering controls and equipment on the site
- Medical surveillance requirements including recognition of symptoms and signs which might indicate over exposure to hazards
- Contents of site-specific safety and health plan

### *Initial training:*

- General site workers engaged in hazardous substance removal or other activities which expose or potentially expose workers to hazardous substances and health hazards shall receive a minimum of 40 hours of instruction off-site and a minimum of three days actual field experience under the direct supervision of a trained, experienced supervisor.
- Workers on site only occasionally for a specific, limited task and who are unlikely to be exposed over permissible exposure limits and published exposure limits shall receive a minimum of 24 hours of instruction off-site and a minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.
- Workers regularly on site in monitored and characterized areas where exposures are under permissible exposure limits and published exposure limits where respirators are not necessary and the characterization indicates that there are no health hazards or the possibility of an emergency developing shall receive at a minimum of 24 hours of instruction off-site and a minimum of one day actual field experience under the direct supervision of a trained, experienced supervisor.

Workers with 24 hours of training and who become general site workers or who are required to wear respirators, shall have the additional 16 hours and two days of training necessary to total 40 hours/3 days (see first paragraph of this section).

### *Management and supervisor training:*



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On-site management and supervisors directly responsible for or who supervise employees engaged in hazardous waste operations shall receive 40 hours initial and three days supervised field experience and at least 8 hours additional specialized training at the time of job assignment on the following (but not limited to) topics:

- Employer's safety and health program
- PPE program
- Spill containment program
- Health hazards monitoring procedures and techniques

### *Qualifications for trainers:*

Trainers shall be qualified to instruct employees about the subject matter that is being presented, such trainers shall have satisfactorily completed a training program for teaching the subject they are expected to teach, or shall have the academic credentials and instructional experience necessary for teaching the subjects.

Instructors shall demonstrate competent instructional skills and knowledge of the applicable subject matter.

### *Training certification:*

Employees and supervisors that have received and successfully completed the training and field experience described above, shall be certified by their instructor or the head instructor and trained supervisor as having completed the necessary off-site and field training,

A written certificate shall be given to each person certified, any person not certified shall be prohibited from engaging in hazardous waste operations.

### *Refresher training:*

Employees, management and supervision covered by this section shall receive 8 hours of refresher training annually to include critique of incidents that have occurred in the past year which could be used as training examples, and other relevant topics.

### *Equivalent training:*

Employers who can show by documentation or certification that an employee's prior work experience and/or training has resulted in training equivalent to the above mentioned training, shall not be required to provide initial training requirements to such employees and shall provide a copy of the certification or documentation to the employee upon request; however, certified employees or employees with equivalent training new to a site shall receive appropriate, site specific training prior to site entry and have appropriate supervised field experience at the new site.

### ***Emergency Response:***

Training shall be based on the duties and functions to be performed by each responder of an emergency response organization, prior to taking part in actual emergency operations.

### First responder awareness level (level 1)

*(individuals likely to witness or discover a hazardous release)*

- understanding of what hazardous substances are, risks associated with such hazardous materials



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- an understanding of the potential outcomes associated with an emergency created by hazardous substances
- ability to recognize presence of hazardous substances in an emergency
- ability to i.d. the hazardous substance, if possible
- their role in the emergency response plan
- ability to make appropriate notification, and recognize the need for additional resources

## First responder operations level (level 2)

*(Individuals who respond to releases as part of the initial response, respond in a defensive manner only -- contain the release from a safe distance, keep it from spreading, prevent exposures.)*

- knowledgeable of basic hazard and risk assessment techniques
- select and use proper PPE
- understanding of basic hazardous materials terms
- knowable of basic control, containment, confinement techniques
- implement basic decon procedures
- understand relevant operating and termination procedures

## Hazardous materials technician (level 3)

*(Individuals who respond to releases for the purpose of stopping the release, receive 24 hours of training equal to level 2, are certified on the following competencies):*

- knowledge to implement emergency response plan
- knowledge of classification, identification and verification of known and unknown materials by field survey of instruments or equipment
- function within an incident command system
- knowledgeable of selection criteria for specialized PPE
- understand hazard and risk assessment techniques
- perform advanced control, containment and/or confinement operations with available resources and PPE
- understand and implement decon procedures
- understand and implement termination procedures
- understand basic chemical and toxicological terminology and behavior



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## Hazardous materials specialist (level 4)

*(Individuals who respond with and provide support to level 3 responders, duties parallel level 3 responders with advanced, specific additional knowledge, act as site liaison, receive 24 hours of training equal to level 3, and are certified on the following competencies):*

- knowledge to implement emergency response plan
- knowledge of classification, identification and verification of known and unknown materials by field survey of instruments or equipment
- knowledge of state emergency response plan
- knowledgeable of selection criteria for specialized PPE
- understand in-depth hazard and risk techniques
- perform specialized control, containment, and/or confinement operations with available resources and PPE
- determine and implement decon procedures
- knowledge sufficient to develop and implement site safety control program
- understand chemical, radiological and toxicological terminology and behavior

## On scene incident commander (level 5)

*(Individuals who will assume control of incident scene beyond first responder awareness level, receive 24 hours of training equal to first responder operations level, certified on the following competencies):*

- ability to implement incident command system
- ability to implement emergency response plan
- knowledgeable of hazards and risks associated with employees working in chemical protective clothing
- ability to implement local emergency response plan
- knowledgeable of state emergency response plan of Federal Regional Response Team
- understand importance of decon procedures
- Trainers
  - satisfactorily completed training course for teaching hazmat response subjects or have training/academic credentials and instructional experience necessary to demonstrate competent instructional skills and good command of subject matter
- Refresher training
  - annual refresher training for all levels sufficient to maintain competencies
  - method of certifying competencies must be kept

## ***Respiratory protection 1926.103(k)***

Employer must provide effective training to employees who are required to use respirators. The employee must demonstrate knowledge of:

- Why respirators are necessary, how improper fit/usage/maintenance may compromise effectiveness
- Limitations and capabilities of respirator
- Effective use of respirator in emergency situations or when respirator malfunctions
- Proper inspection, use, fit check
- Maintenance and storage procedures
- How to recognize medical signs and symptoms that may limit effectiveness of respirators
- General requirements of this section

Training must be conducted in a manner that is understandable to the employee.

Training is required prior to use of respirator, annually thereafter, and whenever:

- Changes in workplace or type of respirator renders previous training obsolete



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- Employee demonstrates inadequacies in knowledge or use of equipment
- Any other situation arises in which retraining appears necessary to ensure safe respirator usage



## ***Fire protection 1926.150(a)(5)***

As warranted by the project, the employer shall provide a trained and equipped fire fighting organization to assure adequate protection to life.

## ***Power-operated hand tools: powder actuated tools 1926.302(e)(1)***

*Powder actuated tools:*

- Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

## ***Welding: Fuel Gas 1926.350(d)***

Employees shall be thoroughly instructed in the safe use of fuel gas, as follows:

- Before connecting regulator to cylinder valve, the valve shall be opened slightly and closed immediately (i.e., "cracking")
- Employee "cracking" the valve shall stand to one side of the outlet, not in front of it
- Valve of a fuel gas cylinder shall not be cracked where the gas would reach welding work, sparks, flames, or other possible sources of ignition
- Cylinder valve shall always be opened slowly to prevent damage to regulator
- For quick closing, valves on fuel gas cylinder shall not be opened more than 1 1/2 turns
- When a special wrench is required, it shall be left in place during operation to allow for quick shut off of fuel
  - in the case of manifold or coupled cylinder, at least one such wrench shall always be available for immediate use
- Nothing shall be placed on top of a fuel gas cylinder when in use which could damage the safety device or interfere with the quick closing of the valve
- Fuel gas shall not be used from cylinders through torches or other devices which are equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold
- Before regulator is removed from cylinder valve, the cylinder valve shall always be closed and the gas released from the regulator

*Leaks:*

- If leaks are found around the valve stem when cylinder is opened, the valve shall be closed and the gland nut tightened, if this does not stop the leak, the use of the cylinder shall be discontinued, the unit tagged and removed from service
- If fuel gas leaks from the cylinder valve and not the valve stem and the gas cannot be shut off, the cylinder shall be properly tagged and removed from service
- If a regulator attached to a cylinder valve will effectively stop a leak through the valve seat, the cylinder need not be removed from service
- If a leak should develop at a fuse plug or other safety device, the cylinder shall be tagged and removed from service

## ***Arc welding and cutting 1926.351(d)***

Employees shall be instructed in the following:

- When electrode holders are to be left unattended, the electrodes shall be removed and the holders shall be so placed or protected that they cannot make electrical contact with employees or conducting objects
- Hot electrode holders shall not be dipped in water, to do so may expose the arc welder or cutter to electric shock



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- When the arc welder or cutter has occasion to leave his work or to stop work for any appreciable length of time, or when the arc welding or cutting machine is to be removed, the power supply switch to the equipment shall be opened
- Any faulty or defective equipment shall be reported to the supervisor



## ***Welding: fire watch 1926.352(e)***

When the welding, cutting or heating operation is such that normal fire prevention precautions are not sufficient, additional personnel shall be assigned to guard against fire while the actual welding, cutting or heating operation is being performed and for a sufficient period of time after completion of the work to ensure that no possibility of fire exists -- such personnel shall be instructed as to the specific anticipated fire hazards and how the fire fighting equipment provided is to be used.

## ***Aerial Lifts 1926.453 (2)(ii)***

Only authorized persons shall operate an aerial lift.

## ***Scaffolding: training requirements 1926.454***

### *Employees working on scaffolding:*

The employer shall have each employee who performs work while on a scaffold trained by a person qualified in the subject matter to recognize the hazards associated with the type of scaffold being used and to understand the procedures to control or minimize those hazards. The training shall include, as applicable:

- Nature of any electrical or fall hazards and falling object hazards in the work area
- Correct procedures for dealing with electrical hazards and for erecting, maintain, and disassembling the fall protection systems and falling object protection systems being used
- Proper use of the scaffold and proper handling of material on the scaffold
- Maximum intended load and the load-carrying capacities of the scaffold used
- Any other pertinent requirements of the scaffolding standard

### *Employees erecting/dismantling scaffolding:*

The employer shall have each employee who is involved in erecting, disassembling, moving, operating, repairing, maintaining or inspecting a scaffold trained by a competent person to recognize any hazards associated with the work in question. The training shall include the following topics, as applicable:

- Nature of scaffold hazards
- Correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question
- Design criteria, maximum intended load carrying capacity and intended use of the scaffold
- Any other pertinent requirements of this subpart

### *Retraining:*

When the employer has reason to believe that an employee lacks the skill or understanding needed for safe work involving the erection, use or dismantling or scaffolds, the employer shall retraining each such employee so that the requisite proficient is regained. Retraining is required in at least the following situations:

- Where changes at the worksite present a hazard about which an employee has not be previously trained
- Where changes in the types of scaffolds, fall protection, falling object protection or other equipment present a hazard about which an employee has not been previously trained
- Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

## ***Fall protection training requirements 1926.503***

### *Training program:*



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- Training program shall be provided for each employee who might be exposed to fall hazards, to include:
  - enable each employee to recognize hazards of falling
  - procedures to be followed in order to minimize these hazards
- Each employee shall be trained, as necessary, by a competent person qualified in the following areas:
  - nature of fall hazards in the work area
  - correct procedures for erecting, maintaining, disassembling, and inspecting fall protection systems to be used
  - 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 to be used
  
  - role of each employee in the safety monitoring system when this system is used
  - limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs
  - correct procedures for the handling and storage of equipment and materials and the erection of overhead protection
  - role of employees in fall protection plans
  - knowledge of standards contained in Subpart M - Fall Protection

#### *Certification of training:*

- Written certification record shall be maintained
- Latest training certification shall be maintained

#### *Retraining:*

Retraining is necessary when the employer has reason to believe that any affected employee who has already been trained does not have the understanding or skill required, retraining will be required, but not limited to:

- Changes in the workplace render previous training obsolete.
- Changes in the types of fall protection systems or equipment to be used render previous training obsolete.
- Inadequacies in an affected employee's knowledge or use of fall protection systems or equipment indicate the employee has not retained the requisite understanding or skill.

### ***Material handling equipment: Industrial Trucks 1926.602 (d)***

The employer shall ensure that each powered industrial truck (forklift) operator is competent to operate a powered industrial truck safely, as demonstrated by the successful completion of the training and evaluation outlined below:

#### *Training program implementation:*

- Trainees may operate a powered industrial truck only under the direct supervision of persons with knowledge, training and experience to train operators and evaluate their competence and where such operation does not endanger the trainee or other employees.
- Training shall consist of a combination of formal instruction (lecture, video, written materials, etc.), practical training (demonstrations & practical exercises) and evaluation (written and competent operation of equipment)

*Training program content:* operators shall receive initial training in the following topics, except in topics the employer can demonstrate are not applicable to safe operation of the truck in the employer's workplace:

#### **Truck related topics:**



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- Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operation
- Difference between the truck and the automobile
- Truck controls and instrumentation
- Engine or motor operation
- Steering and maneuvering
- Visibility, including restrictions due to loading
- Fork and attachment adaptation, operation and use limitations
- Vehicle capacity
- Vehicle stability
- Vehicle inspection (and any maintenance the operator would be required to perform)
- Refueling and/or charging and recharging of batteries
- Operating limitations
- Any other instructions listed in the operator's manual



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## **Workplace related topics:**

- Surface conditions where the vehicle will be operated
- Composition of loads to be carried and load stability
- Load manipulation, stacking and un-stacking
- Pedestrian traffic in areas where the vehicle will be operated
- Narrow aisles and other restricted places where the vehicle will be operated
- Hazardous (classified) locations where the vehicle will be operated
- Ramps and other sloped surfaces that could affect the vehicle's stability
- Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of CO or diesel exhaust
- Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation
- The requirements of the standard

## *Refresher training and evaluation:*

Refresher training in relevant topics and the evaluation of the effectiveness of that training shall be conducted when:

- The operator has been observed to operate the vehicle in an unsafe manner
- The operator has been involved in an accident or near-miss incident
- An evaluation reveals that the operator is not operating the truck safely
- The operator is assigned to drive a different type of truck
- Conditions in the workplace change

## *Retraining/evaluation time frame:*

- An evaluation of each operator shall be conducted a minimum of once every three years.

## *Avoidance of duplicative training:*

- If employee has received previous training *and* the training is appropriate to the current equipment & work conditions, retraining is not required if an evaluation finds the operator competent to safely operate the vehicle.

## ***Steel Erection 1926.761***

### *Safety training instruction:*

- *Training must be provided by a qualified person(s).*
- *Employer must provide a training program for all employees exposed to fall hazards. This program must include training and instruction in the following:*
  - *Recognition and identification of fall hazards in the work area;*
  - *The use and operation of guardrail systems, personal fall arrest systems, positioning device systems, fall restraint systems, safety net systems, and other protection to be used;*
  - *Correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection system(s) to be used;*
  - *Procedures to be followed to prevent falls to lower levels, through or into holes and openings in walking/working surfaces and walls; and*
  - *Fall protection requirements of this part.*

### *Special training programs:*

- *The employer must provide special training to employees engaged in the following activities:*
  - *Proper rigging procedures and equipment for rigging of multiple lift(s);*
  - *The hazards associated with multiple lifts;*
  - *The hazards associated with connecting activities;*
  - *The establishment, access, proper connecting techniques and work practices for safe connecting activities*



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- *Controlled Decking Zone procedures, including the establishment of, access to, and proper installation techniques and work practices for safe decking procedures;*
- *The nature of hazards associated with work within a controlled decking zone.*



## ***Underground construction 1926.800(d), (g)(5)(iii) & (v)***

### *Safety instruction:*

All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities, to include:

- Ventilation
- Air monitoring
- Illumination
- Communications
- Flood control
- Mechanical equipment
- PPE
- Explosives
- Fire prevention and protection
- Emergency procedures, including evacuation plans

### *Emergency provisions:*

- Rescue team members shall be qualified in rescue procedures, the use and limitations of breathing apparatus, and the use of fire fighting equipment -- qualifications to be reviewed not less than annually
- The employer shall ensure rescue teams are familiar with conditions at the jobsite

## ***Power Transmission and Distribution: emergency procedures and first aid 1926.950(e)***

The employer shall provide training or require that employees are knowledgeable and proficient in procedures involving emergency situations and first aid fundamentals, including resuscitation.

## ***Stairways and ladders 1926.1060***

- Training shall be provided for all employees, as necessary, using ladders and stairways.
- Training shall enable each employee to recognize hazards related to ladders and stairways and procedures to be followed to minimize such hazards, to include:
  - nature of fall hazards in the work area
  - correct procedures for erecting, maintaining and disassembling the fall protection systems to be used
  - proper construction, use, placement, and care in handling of all stairways and ladders
  - maximum intended load carrying capabilities of ladders used
  - standards contained in Subpart X
- Retraining shall be provided as necessary to assure employee competency.

## ***Asbestos 1926.1101(k)(9), (o)(4)(i-ii)***

### *Employee training:*

The employer shall institute a training program for all employees who are likely to be exposed in excess of a PEL and for all employees who perform Class I through IV asbestos operations. Employers shall ensure employee participation in the program.

- Training shall be provided prior to or at the time of initial assignment, and at last annually thereafter.

### *Competent Person training:*

Class I & II asbestos work

- Training shall included all aspects of asbestos removal and handling, including
  - abatement



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- installation
- removal
- identification of asbestos
- removal procedures
- practices for reducing the hazard

*Such training shall be obtained in a comprehensive course, such as one conducted by an EPA or state approved training provided, certified by the EPA or state, or an course, equivalent in stringency, content and length.*

Class III and IV asbestos work:

- Training shall included all aspects of asbestos handling appropriate for the nature of the work, including:
  - glove box set up procedures
  - mini-enclosure set up procedures
  - practices for reducing asbestos exposure
  - use of wet methods
  - contents of this standard
  - identification of asbestos

*Such training shall include successful completion of a course equivalent in curriculum and training method to the 16 hour Operations and Maintenance course developed by EPA for maintenance and custodial workers, or its equivalent in stringency, content and length*

## ***Benzene 1926.1128(j)(3)***

- Employer shall provide information and training at the time of initial assignment for employees working in an area where benzene is present and annually thereafter for employees exposed to benzene above the action level.
- Training shall be accordance with HazCom standard with specific information on benzene, to include:
  - explanation of contents, and copy of, benzene standard, including appendices A and B,
  - description of medical surveillance program and explain information contained in appendix C

**The following General Industry Standards may be applicable to certain construction operations:**

## ***Permit-required confined spaces 1910.146 (g), (h), (i), (j)***

All affected employees shall receive training sufficient to acquire understanding, knowledge and skills necessary for safe performance of assigned duties, training certification shall be:

- Prior to assignment of duties
- Prior to a change in assigned duties
- Whenever there is a change in permit space operations
- Retraining when deficiencies in knowledge are observed

*Authorized Entrant duties:*

- Knowledge of hazards of entry, to include information on the mode, signs or symptoms and consequences of exposure
- Proper use of equipment



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- Communicate with attendant as necessary, alert attendant whenever:
  - entrant recognizes any warning sign or symptom of exposure to dangerous situation
  - entrant detects a prohibited condition
- Exits from the confined space as quickly as possible whenever:
  - an order to evacuate is given by the attendant or entry supervisor
  - the entrant recognizes any warning sign or symptom of exposure to a dangerous situation
  - the entrant detects a prohibited condition
  - an evacuation alarm is activated

## *Attendant duties:*

- Knows the hazards which may be faced during entry, including information on the mode, sign and symptoms and consequences of exposures
- Aware of behavioral effects of hazard exposure in authorized entrants
- Continuously maintains an accurate count of authorized entrants in the permit space and ensures that the means used to identify authorized entrants accurately identifies who is in the permit space
- Remains outside the permit space during entry operations until relieved by another attendant
- Communicates with authorized entrants as necessary to monitor entrant status and to alert entrant of the need to evacuate the space
- Monitors activities inside and outside the space to determine if it is safe for entrants to remain in the space and orders the authorized entrants to evacuate the permit space immediately under any of the following conditions:
  - if the attendant detects a prohibited condition
  - if the attendant detects the behavioral effects of hazard exposure in an authorized entrant
  - if the attendant detects a situation outside the space that could endanger the authorized entrants
  - if the attendant cannot effectively and safely perform all the duties required
- Summons rescue and other emergency services as soon as the attendant determines that authorized entrants may need assistance to escape from permit space hazards
- Takes the following actions when unauthorized persons approach or enter a permit space while entry is underway:
  - warn the unauthorized persons that they must stay away from the permit space
  - advise the unauthorized persons that they must exit immediately if they have entered the permit space
  - inform the authorized entrants and the entry supervisor if unauthorized persons have entered the permit space
- Performs non-entry rescue as specified by the employer's rescue procedure
- Performs no duties that might interfere with the attendant's primary duty to monitor and protect the authorized entrants

## *Entry Supervisor duties:*

- Knows the hazards that may be faced during entry, including information on the mode, signs or symptoms and consequences of the exposure
- Verifies by checking that the appropriate entries have been made on the permit, that all tests specified by the permit have been conducted and that all procedures and equipment specified by the permit are in place before endorsing the permit and allowing entry to begin
- Terminates the entry and cancels the permit
- Verified that rescue services are available and that the means for summoning them are operable



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- Removes unauthorized individuals who enter or who attempt to enter the permit space during entry operations
- Determines, whenever responsibility for a permit space entry operations is transferred and at intervals dictated by the hazards and operations performed within the space, that entry operations remain consistent with terms of the entry permit and that acceptable entry conditions are maintained

*Also see Appendices A, B, and C*

## ***Control of hazardous energy (Lock-out/Tag-out) 1910.147(c)(7)***

- Employer must provide training to ensure the purpose and function of the energy control program are understood by employees, the knowledge and skills required for safe application, usage and removal of energy controls are acquired and maintained by each employee, training must include:
  - *Authorized employees* shall be trained in recognition of applicable hazardous entry sources type and magnitude of energy available in the workplace, methods and means necessary for energy isolation and control
  - *Affected employees* shall be instructed and trained in use of energy control procedures
  - *All other employees* working in or around area where energy control procedures are utilized shall be instructed about the procedures and about the prohibition relating to attempts to restart or re-energize machines or equipment which are locked out or tagged out
- When tagout systems are used, employees must be trained in the following limitations of tags:
  - tags are warning devices and do not provide physical restrains
  - tags are not to be removed without authorization of the authorized person responsible for the tag
  - tags are never to be ignored, bypassed or otherwise defeated
  - tags must be legible and understandable by anyone coming into contact with tag
  - tags and means of attachments must be of such construction to withstand environmental conditions encountered
  - tags may evoke a false sense of security, their meaning must be understood as a part of the overall program
  - tags must be securely attached to energy isolation devices and cannot be inadvertently or accidentally detached during use
- Employee retraining is necessary when:
  - change in job assignment, machines, equipment or processes which present a new hazard or whenever the procedure changes
  - periodic inspection reveals, or there is reason to believe, inadequacies in employee's knowledge prevent proper adherence to procedures
  - introduction of new or revised methods and procedures
- Employer shall certify employee training has been accomplished and is kept up-to-date (name and date of training must be included on certification)

## ***Portable fire extinguishers 1910.157(g)(1-4)***

Where portable extinguishers are provided in the workplace, the employer shall provide an educational program to familiarize employees with general principles of fire extinguisher use and the hazards involved in incipient stage fire fighting; training shall be provided initially and at least annually thereafter



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- Employees designated to use fire extinguishers in an emergency shall receive training in the appropriate use of equipment, training shall be provided initially and at least annually thereafter

## ***Employee alarm systems 1910.165 (b)(4)***

Employer shall explain to each employee:

- Preferred means of reporting emergencies
- Employer shall post emergency telephone numbers near telephones, notice boards, or other conspicuous locations when telephones are used as a means of reporting emergencies
- Employee alarm systems have priority over all non-emergency messages

## ***Bloodborne Pathogens 1910.1030(g)(2)***

Employers shall ensure all employees with occupational exposure participated in a training program, provided at no cost during work hours, training shall be provided as follows:

- Training shall be provided at the time of initial assignment to tasks where occupational exposure may take place, and annually thereafter
- Additional training will be provided when changes in assignment, procedures, etc. constitute a change in exposure
- Material appropriate in content and vocabulary to educational level, literacy and language of employees shall be used
- Training shall contain, at a minimum:
  - accessible copy of the standard
  - general explanation of the epidemiology and symptoms of bloodborne disease
  - explanation of the modes of transmission of bloodborne pathogens
  - explanation of the appropriate methods for recognizing task and other activities which may involve exposure to blood and other potentially infectious materials
  - explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and PPE
  - information on the types, proper use, location, removal, handling, decontamination and disposal of PPE
  - explanation of the basis for selection of PPE
  - information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated and free vaccination program
  - information on the appropriate actions to be taken and persons to contact in an emergency
  - 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
  - information on the post-exposure evaluation and follow-up that the employers required to provide for the employee following an exposure
  - an explanation of the signs and labels and/or color coding required by this standard
  - opportunity for interactive questions and answers with the person conducting the training session
- The person conducting the training shall be knowledgeable in the subject matter