

- (2) Specific signs and symptoms related to exposure to hazardous materials on the site.
 - (3) The frequency and extent of periodic medical examinations that will be used on the site.
 - (4) Maintenance and availability of records.
 - (5) Personnel to be contacted and procedures to be followed when signs and symptoms of exposures are recognized.
- e. The employees will review and discuss the site safety plan as part of the training program. The location of the site safety plan and all written programs should be discussed with employees including a discussion of the mechanisms for access, review, and references described.

B. RCRA Operations Training for Treatment, Storage and Disposal Facilities

1. As a minimum, the training course required in 29 CFR 1926.65 (p) should include the following topics:
 - (a) Review of the applicable paragraphs of 29 CFR 1926.65 and the elements of the employer's occupational safety and health plan.
 - (b) Review of relevant hazards such as, but not limited to, chemical, biological, and radiological exposures; fire and explosion hazards; thermal extremes; and physical hazards.
 - (c) General safety hazards including those associated with electrical hazards, powered equipment hazards, lockout/tagout procedures, motor vehicle hazards and walking-working surface hazards.
 - (d) Confined-space hazards and procedures.
 - (e) Work practices to minimize employee risk from workplace hazards.
 - (f) Emergency response plan and procedures including first aid meeting the requirements of paragraph (p)(8).
 - (g) A review of procedures to minimize exposure to hazardous waste and various type of waste streams, including the materials handling program and spill containment program.
 - (h) A review of hazard communication programs meeting the requirements of 29 CFR 1910.1200.
 - (i) A review of medical surveillance programs meeting the requirements of 29 CFR 1926.65(p)(3) including the recognition of signs and symptoms of overexposure to hazardous substance including known synergistic interactions.

- (j) A review of decontamination programs and procedures meeting the requirements of 29 CFR 1926.65(p)(4).
 - (k) A review of an employer's requirements to implement a training program and its elements.
 - (l) A review of the criteria and programs for proper selection and use of personal protective equipment, including respirators.
 - (m) A review of the applicable appendices to 29 CFR 1926.65.
 - (n) Principles of toxicology and biological monitoring as they pertain to occupational health.
 - (o) Rights and responsibilities of employees and employers under applicable OSHA and EPA laws.
 - (p) Hands-on exercises and demonstrations of competency with equipment to illustrate the basic equipment principles that may be used during the performance of work duties, including the donning and doffing of PPE.
 - (q) Sources of reference, efficient use of relevant manuals, and knowledge of hazard coding systems to include information contained in hazardous waste manifests.
 - (r) At least 8 hours of hands-on training.
 - (s) Training in the job skills required for an employee's job function and responsibility before they are permitted to participate in or supervise field activities.
2. The individual employer should provide hazardous waste employees with information and training prior to an employee's initial assignment into a work area. The training and information should cover the following topics:
- (a) The Emergency response plan and procedures including first aid.
 - (b) A review of the employer's hazardous waste handling procedures including the materials handling program and elements of the spill containment program, location of spill response kits or equipment, and the names of those trained to respond to releases.
 - (c) The hazardous communication program meeting the requirements of 29 CFR 1910.1200.
 - (d) A review of the employer's medical surveillance program including the recognition of signs and symptoms of exposure to relevant hazardous substances including known synergistic interactions.
 - (e) A review of the employer's decontamination program and procedures.
 - (f) A review of the employer's training program and the parties responsible for that program.

- (g) A review of the employer's personal protective equipment program including the proper selection and use of PPE based upon specific site hazards.
- (h) All relevant site-specific procedures addressing potential safety and health hazards. This may include, as appropriate, biological and radiological exposures, fire and explosion hazards, thermal hazards, and physical hazards such as electrical hazards, powered equipment hazards, lockout/tagout hazards, motor vehicle hazards, and walking-working surface hazards.
- (i) Safe use engineering controls and equipment on site.
- (j) Names of personnel and alternates responsible for safety and health.

C. Emergency response training

Federal OSHA standards in 29 CFR 1926.65(q) are directed toward private sector emergency responders. Therefore, the guidelines provided in this portion of the appendix are directed toward that employee population. However, they also impact indirectly through State OSHA or USEPA regulations some public sector emergency responders. Therefore, the guidelines provided in this portion of the appendix may be applied to both employee populations.

States with OSHA state plans must cover their employees with regulations at least as effective as the Federal OSHA standards. Public employees in states without approved state OSHA programs covering hazardous waste operations and emergency response are covered by the U.S. EPA under 40 CFR 311, a regulation virtually identical to 1926.65.

Since this is a non-mandatory appendix and therefore not an enforceable standard, OSHA recommends that those employers, employees or volunteers in public sector emergency response organizations outside Federal OSHA jurisdiction consider the following criteria in developing their own training programs. A unified approach to training at the community level between emergency response organizations covered by Federal OSHA and those not covered directly by Federal OSHA can help ensure an effective community response to the release or potential release of hazardous substances in the community.

a. General considerations

Emergency response organizations are required to consider the topics listed in 1926.65(q)(6). Emergency response organizations may use some or all of the following topics to supplement those mandatory topics when developing their response training programs. Many of the topics would require an interaction between the response provider and the individuals responsible for the site where the response would be expected.

- (1) Hazard recognition, including:
 - (A) Nature of hazardous substances present,
 - (B) Practical applications of hazard recognition, including presentations on biology, chemistry, and physics.
- (2) Principles of toxicology, biological monitoring, and risk assessment.
- (3) Safe work practices and general site safety.
- (4) Engineering controls and hazardous waste operations.
- (5) Site safety plans and standard operating procedures.
- (6) Decontamination procedures and practices.
- (7) Emergency procedures, first aid, and self-rescue.
- (8) Safe use of field equipment.
- (9) Storage, handling, use and transportation of hazardous substances.
- (10) Use, care, and limitations of personal protective equipment.
- (11) Safe sampling techniques.
- (12) Rights and responsibilities of employees under OSHA and other related laws concerning right-to-know, safety and health, compensations and liability.
- (13) Medical monitoring requirements.
- (14) Community relations.

b. Suggested criteria for specific courses

- (1) *First responder awareness level.*
 - (A) Review of and demonstration of competency in performing the applicable skills of 29 CFR 1926.65(q).
 - (B) Hands-on experience with the U.S. Department of Transportation's *Emergency Response Guidebook* (ERG) and familiarization with OSHA standard 29 CFR 1926.60.
 - (C) Review of the principles and practices for analyzing an incident to determine both the hazardous substances present and the basic hazard and response information for each hazardous substance present.
 - (D) Review of procedures for implementing actions consistent with the local emergency response plan, the organization's standard operating procedures, and the current edition of DOT's ERG including emergency notification procedures and follow-up communications.

- (E) Review of the expected hazards including fire and explosions hazards, confined space hazards, electrical hazards, powered equipment hazards, motor vehicle hazards, and walking-working surface hazards.
 - (F) Awareness and knowledge of the competencies for the First Responder at the Awareness Level covered in the National Fire Protection Association's Standard No. 472, *Professional Competence of Responders to Hazardous Materials Incidents*.
- (2) *First responder operations level.*
- (A) Review of and demonstration of competency in performing the applicable skills of 29 CFR 1926.65(q).
 - (B) Hands-on experience with the U.S. Department of Transportation's *Emergency Response Guidebook* (ERG), manufacturer material safety data sheets, CHEMTREC/CANUTECH, shipper or manufacturer contacts and other relevant sources of information addressing hazardous substance releases. Familiarization with OSHA standard 29 CFR 1926.60.
 - (C) Review of the principles and practices for analyzing an incident to determine the hazardous substances present, the likely behavior of the hazardous substance and its container, the types of hazardous substance transportation containers and vehicles, the types and selection of the appropriate defensive strategy for containing the release.
 - (D) Review of procedures for implementing continuing response actions consistent with the local emergency response plan, the organization's standard operating procedures, and the current edition of DOT's ERG including extended emergency notification procedures and follow-up communications.
 - (E) Review of the principles and practice for proper selection and use of personal protective equipment.
 - (F) Review of the principles and practice of personnel and equipment decontamination.
 - (G) Review of the expected hazards including fire and explosions hazards, confined space hazards, electrical hazards, powered equipment hazards, motor vehicle hazards, and walking-working surface hazards.
 - (H) Awareness and knowledge of the competencies for the First Responder at the Operations Level covered in the National Fire Protection Association's Standard No. 472, *Professional Competence of Responders to Hazardous Materials Incidents*.

- (3) *Hazardous materials technician.*
- (A) Review of and demonstration of competency in performing the applicable skills of 29 CFR 1926.65(q).
 - (B) Hands-on experience with written and electronic information relative to response decision making including but not limited to the U.S. Department of Transportation's *Emergency Response Guidebook* (ERG), manufacturer material safety data sheets, CHEMTREC/CANUTEC, shipper or manufacturer contacts, computer data bases and response models, and other relevant sources of information addressing hazardous substance releases. Familiarization with 29 CFR 1926.60.
 - (C) Review of the principles and practices for analyzing an incident to determine the hazardous substances present, their physical and chemical properties, the likely behavior of the hazardous substance and its container, the types of hazardous substance transportation containers and vehicles involved in the release, the appropriate strategy for approaching release sites and containing the release.
 - (D) Review of procedures for implementing continuing response actions consistent with the local emergency response plan, the organization's standard operating procedures, and the current edition of DOT's ERG including extended emergency notification procedures and follow-up communications.
 - (E) Review of the principles and practice for proper selection and use of personal protective equipment.
 - (F) Review of the principles and practices of establishing exposure zones, proper decontamination and medical surveillance stations and procedures.
 - (G) Review of the expected hazards including fire and explosions hazards, confined space hazards, electrical hazards, powered equipment hazards, motor vehicle hazards, and walking-working surface hazards.
 - (H) Awareness and knowledge of the competencies for the Hazardous Materials Technician covered in the National Fire Protection Association's Standard No. 472, *Professional Competence of Responders to Hazardous Materials Incidents*.
- (4) *Hazardous materials specialist.*
- (A) Review of and demonstration of competency in performing the applicable skills of 29 CFR 1926.65(q).

- (B) Hands-on experience with retrieval and use of written and electronic information relative to response decision making including but not limited to the U.S. Department of Transportation's *Emergency Response Guidebook* (ERG), manufacturer material safety data sheets, CHEMTREC/CANUTEC, shipper or manufacturer contacts, computer data bases and response models, and other relevant sources of information addressing hazardous substance releases. Familiarization with 29 CFR 1926.60.
- (C) Review of the principles and practices for analyzing an incident to determine the hazardous substances present, their physical and chemical properties, and the likely behavior of the hazardous substance and its container, vessel, or vehicle.
- (D) Review of the principles and practices for identification of the types of hazardous substance transportation containers, vessels and vehicles involved in the release; selecting and using the various types of equipment available for plugging or patching transportation containers, vessels or vehicles; organizing and directing the use of multiple teams of hazardous material technicians and selecting the appropriate strategy for approaching release sites and containing or stopping the release.
- (E) Review of procedures for implementing continuing response actions consistent with the local emergency response plan, the organization's standard operating procedures, including knowledge of the available public and private response resources, establishment of an incident command post, direction of hazardous material technician teams, and extended emergency notification procedures and follow-up communications.
- (F) Review of the principles and practice for proper selection and use of personal protective equipment.
- (G) Review of the principles and practices of establishing exposure zones and proper decontamination, monitoring and medical surveillance stations and procedures.
- (H) Review of the expected hazards including fire and explosions hazards, confined space hazards, electrical hazards, powered equipment hazards, motor vehicle hazards, and walking-working surface hazards.
- (I) Awareness and knowledge of the competencies for the Off-site Specialist Employee covered in the National Fire Protection Association's Standard No. 472, *Professional Competence of Responders to Hazardous Materials Incidents*.

- (5) *Incident commander.* The incident commander is the individual who, at any one time, is responsible for and in control of the response effort. This individual is the person responsible for the direction and coordination of the response effort. An incident commander's position should be occupied by the most senior, appropriately trained individual present at the response site. Yet, as necessary and appropriate by the level of response provided, the position may be occupied by many individuals during a particular response as the need for greater authority, responsibility, or training increases. It is possible for the first responder at the awareness level to assume the duties of incident commander until a more senior and appropriately trained individual arrives at the response site.

Therefore, any emergency responder expected to perform as an incident commander should be trained to fulfill the obligations of the position at the level of response they will be providing including the following:

- (A) Ability to analyze a hazardous substance incident to determine the magnitude of the response problem.
- (B) Ability to plan and implement an appropriate response plan within the capabilities of available personnel and equipment.
- (C) Ability to implement a response to favorably change the outcome of the incident in a manner consistent with the local emergency response plan and the organization's standard operating procedures.
- (D) Ability to evaluate the progress of the emergency response to ensure that the response objectives are being met safely, effectively, and efficiently.
- (E) Ability to adjust the response plan to the conditions of the response and to notify higher levels of response when required by the changes to the response plan.

Subpart E – Personal Protective and Life Saving Equipment

1926.102 Eye and face protection

(a) General

- (2) Eye and face protection equipment required by this Part shall meet the requirements specified in American National Standards Institute, Z87.1-1968, Practice for Occupational and Educational Eye and Face Protection. [SEE: ANSI Z87.1 – 1968 Section 4.9 “When limitations or precautions are indicated by the manufacturer, they shall be transmitted to the user and care taken to see that such limitations and precautions are strictly observed.”]

1926.103 Respiratory protection

[**Note:** The requirements applicable to construction work under this section are identical to those set forth at 29 CFR 1910.134 of this chapter.]

1910.134 Respiratory protection

(a) Permissible Practice

- (2) A respirator shall be provided to each employee when such equipment is necessary to protect the health of such employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program, which shall include the requirements outlined in paragraph (c) of this section. The program shall cover each employee required by this section to use a respirator.
- (c) **Respiratory protection program.** This paragraph requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. The Small Entity Compliance Guide contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the Small Entity Compliance Guide will be available on or about April 8, 1998 from the Occupational Safety and Health Administration’s Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).

- (1) In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable:
 - (vii) Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations;
 - (viii) Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and
- (3) The employer shall designate a program administrator who is qualified by appropriate training or experience that is commensurate with the complexity of the program to administer or oversee the respiratory protection program and conduct the required evaluations of program effectiveness.
- (4) The employer shall provide respirators, training, and medical evaluations at no cost to the employee.
- (k) Training and information.** This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.
 - (1) The employer shall ensure that each employee can demonstrate knowledge of at least the following:
 - (i) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator;
 - (ii) What the limitations and capabilities of the respirator are;
 - (iii) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions;

- (iv) How to inspect, put on and remove, use, and check the seals of the respirator;
 - (v) What the procedures are for maintenance and storage of the respirator;
 - (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.
- (2) The training shall be conducted in a manner that is understandable to the employee.
 - (3) The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.
 - (4) An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph (k)(1)(i) through (vii) is not required to repeat such training provided that, as required by paragraph (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.
 - (5) Retraining shall be administered annually, and when the following situations occur:
 - (i) Changes in the workplace or the type of respirator render previous training obsolete;
 - (ii) Inadequacies in the employee's knowledge or use of the respirator indicate that the employee has not retained the requisite understanding or skill; or
 - (iii) Any other situation arises in which retraining appears necessary to ensure safe respirator use.
 - (6) The basic advisory information on respirators, as presented in Appendix D of this section, shall be provided by the employer in any written or oral format, to employees who wear respirators when such use is not required by this section or by the employer.

Subpart F – Fire Protection and Prevention

1926.150 Fire protection

(a) General requirements.

- (1) The employer shall be responsible for the development of a fire protection program to be followed throughout all phases of the construction and demolition work, and he shall provide for the firefighting equipment as specified in this subpart. As fire hazards occur, there shall be no delay in providing the necessary equipment.
- (5) As warranted by the project, the employer shall provide a trained and equipped firefighting organization (Fire Brigade) to assure adequate protection to life.

1926.155 Definitions applicable to this subpart

- (e) *Fire brigade* means an organized group of employees that are knowledgeable, trained, and skilled in the safe evacuation of employees during emergency situations and in assisting in fire fighting operations.

Subpart G – Signs, Signals, and Barricades

1926.200 Accident prevention signs and tags

(g) Traffic signs

- (1) Construction areas shall be posted with legible traffic signs at points of hazard.
- (2) All traffic controls signs or devices used for protection of construction workers shall conform to Part VI of the Manual of Uniform Traffic Control Devices (MUTCD), 1988 Edition, Revision 3, September 3, 1993, FHWA-SA-94-027 or Part VI of the Manual on Uniform Traffic Control Devices, Millennium Edition, December 2000, FHWA, which are incorporated by reference... [SEE: the edition being used for guidance about training workers, flaggers, and others in the temporary traffic control and work zones.]

1926.201 Signaling

- (a) **Flaggers.** Signaling by flaggers and the use of flaggers, including warning garments worn by flaggers shall conform to Part VI of the Manual on Uniform Traffic Control Devices, (1988 Edition, Revision 3 or the Millennium Edition), which are incorporated by reference in 1926.200(g)(2).
- (b) **Crane and hoist signals.** Regulations for hoist signaling will be found in applicable American National Standards Institute standards. [NOTE: As of Nov. 8, 2010, crane/derrick signaling comes under the final rule for cranes and derricks in construction, 29 CFR 1926 Subpart CC. The rule requires specific training for signal persons (at 1926.1430(b) — based on signal person qualification requirements in 1926.1428c)].

1926.202 Barricades

Barricades for protection of employees shall conform to Part VI of the Manual on Uniform Traffic Control Devices (1988 Edition, Revision 3 or Millennium Edition), which are incorporated by reference in 1926.200(g)(2). [SEE: the edition being used for information about training workers, flaggers, and others in the temporary traffic control and work zones.]

Subpart I – Tools – Hand and Power

1926.300 General requirements

- (c) **Personal protective equipment.** Employees using hand and power tools and exposed to the hazard of falling, flying, abrasive, and splashing objects, or exposed to harmful dusts, fumes, mists, vapors, or gases shall be provided with the particular personal protective equipment necessary to protect them from the hazard. All personal protective equipment shall meet the requirements and be maintained according to Subparts D and E of this part. [SEE 29 CFR 1926 Subpart E for training requirements.]

1926.302 Power-operated hand tools

- (e) **Powder-actuated tools**
 - (1) Only employees who have been trained in the operation of the particular tool in use shall be allowed to operate a powder-actuated tool.

Subpart J – Welding and Cutting

1926.350 Gas welding and cutting

(a) **Transporting, moving and storing compressed gas cylinders**

- (12) The in-plant handling, storage, and utilization of all compressed gases in cylinders, portable tanks, rail tank cars, or motor vehicle cargo tanks shall be in accordance with Compressed Gas Association Pamphlet P-1-1965. [SEE the pamphlet for training/information requirements.]

1926.351 Arc welding and cutting

(d) **Operating instructions.** Employers shall instruct employees in the safe means of arc welding and cutting as follows:

- (1) 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.
- (2) Hot electrode holders shall not be dipped in water; to do so may expose the arc welder or cutter to electric shock.
- (3) 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 moved, the power supply switch to the equipment shall be opened.
- (4) Any faulty or defective equipment shall be reported to the supervisor.
- (5) See 1926.406(c) for additional requirements.

1926.352 Fire prevention

- (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 firefighting equipment provided is to be used.
- (f) When welding, cutting, or heating is performed on walls, floors, and ceilings, since direct penetration of sparks or heat transfer may introduce a fire hazard to an adjacent area, the same precautions shall be taken on the opposite side as are taken on the side on which the welding is being performed. [SEE 29 CFR 1926.352(e) for instruction requirements.]

Subpart K – Electrical

1926.416 General requirements

(a) Protection of employees

- (3) Before work is begun the employer shall ascertain by inquiry or direct observation, or by instruments, whether any part of an energized electric power circuit, exposed or concealed, is so located that the performance of the work may bring any person, tool, or machine into physical or electrical contact with the electric power circuit. The employer shall post and maintain proper warning signs where such a circuit exists. The employer shall advise employees of the location of such lines, the hazards involved, and the protective measures to be taken.

Subpart L – Scaffolds

1926.450 Scope, application and definitions applicable to this subpart

- (a) **Definitions.** *Qualified* means one who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated his/her ability to solve or resolve problems related to the subject matter, the work, or the project.

1926.451 General requirements

(f) Use

- (7) Scaffolds shall be erected, moved, dismantled, or altered only under the supervision and direction of a competent person qualified in scaffold erection, moving, dismantling or alteration. Such activities shall be performed only by experienced and trained employees selected for such work by the competent person.

1926.454 Training requirements

- (a), (b) and (c) *This section supplements and clarifies the requirements of 1926.21(b)(2) as these relate to the hazards of work on scaffolds.*

- (a) 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 the following areas, as applicable:

- (1) The nature of any electrical hazards, fall hazards and falling object hazards in the work area;
 - (2) The correct procedures for dealing with electrical hazards and for erecting, maintaining, and disassembling the fall protection systems and falling object protection systems being used;
 - (3) The proper use of the scaffold, and the proper handling of materials on the scaffold;
 - (4) The maximum intended load and the load-carrying capacities of the scaffolds used; and
 - (5) Any other pertinent requirements of this subpart.
- (b) 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:
- (1) The nature of scaffold hazards;
 - (2) The correct procedures for erecting, disassembling, moving, operating, repairing, inspecting, and maintaining the type of scaffold in question;
 - (3) The design criteria, maximum intended load-carrying capacity and intended use of the scaffold;
 - (4) Any other pertinent requirements of this subpart.
- (c) 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 of scaffolds, the employer shall retrain each such employee so that the requisite proficiency is regained. Retraining is required in at least the following situations:
- (1) Where changes at the worksite present a hazard about which an employee has not been previously trained; or
 - (2) 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; or
 - (3) Where inadequacies in an affected employee's work involving scaffolds indicate that the employee has not retained the requisite proficiency.

(Non-mandatory) Appendix D to Subpart L of Part 1926—List of Training Topics for Scaffold Erectors and Dismantlers

This appendix D is provided to serve as a guide to assist employers when evaluating the training needs of employees erecting or dismantling supported scaffolds.

The Agency believes that employees erecting or dismantling scaffolds should be trained in the following topics:

General Overview of Scaffolding

- regulations and standards
- erection/dismantling planning
- PPE and proper procedures
- fall protection
- materials handling
- access
- working platforms
- foundations
- guys, ties and braces

Tubular Welded Frame Scaffolds

- specific regulations and standards
- components
- parts inspection
- erection/dismantling planning
- guys, ties and braces
- fall protection
- general safety
- access and platforms
- erection/dismantling procedures
- rolling scaffold assembly
- putlogs

Tube and Clamp Scaffolds

- specific regulations and standards
- components
- parts inspection
- erection/dismantling planning
- guys, ties and braces
- fall protection
- general safety
- access and platforms
- erection/dismantling procedures
- buttresses, cantilevers, & bridges

System Scaffolds

- specific regulations and standards
- components
- parts inspection
- erection/dismantling planning
- guys, ties and braces
- fall protection
- general safety
- access and platforms
- erection/dismantling procedures
- buttresses, cantilevers, & bridges

Scaffold erectors and dismantlers should all receive the general overview, and, in addition, specific training for the type of supported scaffold being erected or dismantled.

Subpart M – Fall Protection

1926.503 Training requirements

The following training provisions supplement and clarify the requirements of 1926.21 regarding the hazards addressed in subpart M of this part.

(a) Training Program.

- (1) The employer shall provide a training program for each employee who might be exposed to fall hazards. The program shall enable each employee to recognize the hazards of falling and shall train each employee in the procedures to be followed in order to minimize these hazards.
- (2) The employer shall assure that each employee has been trained, as necessary, by a competent person qualified in the following areas:
 - (i) The nature of fall hazards in the work area;
 - (ii) The correct procedures for erecting, maintaining, disassembling, and inspecting the fall protection systems to be used;
 - (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 to be used;
 - (iv) The role of each employee in the safety monitoring system when this system is used;
 - (v) The limitations on the use of mechanical equipment during the performance of roofing work on low-sloped roofs;
 - (vi) The correct procedures for the handling and storage of equipment and materials and the erection of overhead protection; and
 - (vii) The role of employees in fall protection plans;
 - (viii) The standards contained in this subpart.

(b) Certification of training

(1) The employer shall verify compliance with paragraph (a) of this section by preparing a written certification record. The written certification record shall contain the name or other identity of the employee trained, the date(s) of the training, and the signature of the person who conducted the training or the signature of the employer. If the employer relies on training conducted by another employer or completed prior to the effective date of this section, the certification record shall indicate the date the employer determined the prior training was adequate rather than the date of actual training.

(2) The latest training certification shall be maintained.

(c) Retraining. When the employer has reason to believe that any affected employee who has already been trained does not have the understanding and skill required by paragraph (a) of this section, the employer shall retrain each such employee. Circumstances where retraining is required include, but are not limited to, situations where:

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

Appendix E to Subpart M of Part 1926 — Sample Fall Protection Plan**Non-Mandatory Guidelines for Complying with 1926.502(k)**

Note: Part VII (Changes to Plan) of this Appendix contains a non-mandatory Sample Fall Protection Plan for Residential Construction employers; the sample plan has references to trained employees.

Subpart O – Motor Vehicles, Mechanized Equipment, and Marine Operations

1926.602 Material handling equipment

(d) Powered industrial truck operator training

Note: The requirements applicable to construction work under this paragraph are identical to those set forth at 1910.178(l) of this chapter.

1910.178 Powered industrial trucks

(l) Operator training

(1) *Safe operation.*

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

(2) *Training program implementation.*

- (i) Trainees may operate a powered industrial truck only:
 - (A) Under the direct supervision of persons 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.
- (ii) Training shall 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.
- (iii) All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train powered industrial truck operators and evaluate their competence.

- (3) *Training program content.* Powered industrial truck operators shall receive initial training in the following topics, except in topics which the employer can demonstrate are not applicable to safe operation of the truck in the employer's workplace.
- (i) Truck-related topics:
- (A) Operating instructions, warnings, and precautions for the types of truck the operator will be authorized to operate;
 - (B) Differences between the truck and the automobile;
 - (C) Truck controls and instrumentation: 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 that the operator will be required to perform;
 - (K) Refueling and/or charging and recharging of batteries;
 - (L) Operating limitations;
 - (M) Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.
- (ii) Workplace-related topics:
- (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;
 - (I) Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation.
- (iii) The requirements of this section
- (4) *Refresher training and evaluation.*
- (i) Refresher training, including an evaluation of the effectiveness of that training, shall be conducted as required by paragraph (l)(4)(ii) to ensure that the operator has the knowledge and skills needed to operate the powered industrial truck safely.
 - (ii) Refresher training in relevant topics shall be provided to the operator when:
 - (A) The operator has been observed to operate 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 that the operator is not operating the truck 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 safe operation of the truck.
 - (iii) An evaluation of each powered industrial truck operator's performance shall be conducted at least once every three years.
- (5) *Avoidance of duplicative training.* If an operator has previously received training in a topic specified in paragraph (l)(3) of this section, and such training is appropriate to the truck and working conditions encountered, additional training in that topic is not required if the operator has been evaluated and found competent to operate the truck safely.

- (6) *Certification.* The employer shall certify that each operator has been trained and evaluated as required by this paragraph (l). The certification shall 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.
- (7) *Dates.* The employer shall ensure that operators of powered industrial trucks are trained, as appropriate, by the dates shown in the following table.

If the employee was hired:	The initial training and evaluation of that employee must be completed:
Before December 1, 1999	By December 1, 1999
After December 1, 1999	Before the employee is assigned to operate a powered industrial truck

- (8) Appendix A to this section provides non-mandatory guidance to assist employers in implementing this paragraph (l). This appendix does not add to, alter, or reduce the requirements of this section.

Subpart R – Steel Erection

1926.760 Fall protection

- (c) **Controlled Decking Zone (CDZ).** A controlled decking zone may be established in that area of the structure over 15 and up to 30 feet above a lower level where metal decking is initially being installed and forms the leading edge of a work area. In each CDZ, the following shall apply:
 - (4) Each employee working in a CDZ shall have completed CDZ training in accordance with 1926.761.

1926.761 Training

The following provisions supplement the requirements of 1926.21 regarding the hazards addressed in this subpart.

- (a) **Training personnel.** Training required by this section shall be provided by a qualified person(s).
- (b) **Fall hazard training.** The employer shall train each employee exposed to a fall hazard in accordance with the requirements of this section. The employer shall institute a training program and ensure employee participation in the program.

- (c) **Special training programs.** In addition to the training required in paragraphs (a) and (b) of this section, the employer shall provide special training to employees engaged in the following activities.
- (1) *Multiple lift rigging procedure.* The employer shall ensure that each employee who performs multiple lift rigging has been provided training in the following areas:
 - (i) The nature of the hazards associated with multiple lifts; and
 - (ii) The proper procedures and equipment to perform multiple lifts required by 1926.753(e).
 - (2) *Connector procedures.* The employer shall ensure that each connector has been provided training in the following areas:
 - (i) The nature of the hazards associated with connecting; and
 - (ii) The establishment, access, proper connecting techniques and work practices required by 1926.756(c) and 1926.760(b).
 - (3) *Controlled Decking Zone Procedures.* Where CDZs are being used, the employer shall assure that each employee has been provided training in the following areas:
 - (i) The nature of the hazards associated with work within a controlled decking zone; and
 - (ii) The establishment, access, proper installation techniques and work practices required by 1926.760(c) and 1926.754(e).

Appendix A to Subpart R of Part 1926 — Guidelines for Establishing the components of a Site-specific Erection Plan: Non-mandatory Guidelines for Complying with 1926.752(e)

- (a) *General.* This appendix serves as a guideline to assist employers who elect to develop a site-specific erection plan in accordance with 1926.752(e) with alternate means and methods to provide employee protection in accordance with 1926.752(e), 1926.753(c)(5), 1926.757(a)(4) and 1926.757(e)(4).
- (c) *Components of a site-specific erection plan.* In developing a site-specific erection plan, a steel erector considers the following elements:
- (7) A certification for each employee who has received training for performing steel erection operations as required by 1926.761.

Appendix E to Subpart R of Part 1926 — 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 S – Underground Construction, Caissons, Cofferdams and Compressed Air

1926.800 Underground construction

(d)(1) through
(10), and (g)(5)(iv)

(d) Safety instruction. All employees shall be instructed in the recognition and avoidance of hazards associated with underground construction activities including, where appropriate, the following subjects:

- (1) Air monitoring;
- (2) Ventilation;
- (3) Illumination;
- (4) Communications;
- (5) Flood control;
- (6) Mechanical equipment;
- (7) Personal protective equipment;
- (8) Explosives;
- (9) Fire prevention and protection; and
- (10) Emergency procedures, including evacuation plans and check-in/check-out systems.

(g) Emergency provisions

- (5) *Rescue teams.*
 - (iv) On jobsites where flammable or noxious gases are encountered or anticipated in hazardous quantities, rescue team members shall practice donning and using self-contained breathing apparatus monthly.

1926.803 Compressed air

(a) General provisions

- (2) Every employee shall be instructed in the rules and regulations which concern his safety or the safety of others.

(e) Compression

- (1) Every employee going under air pressure for the first time shall be instructed on how to avoid excessive discomfort.

Subpart U – Blasting and the Use of Explosives

1926.901 Blaster qualifications

- (c) A blaster shall be qualified, by reason of training, knowledge, or experience, in the field of transporting, storing, handling, and use of explosives, and have a working knowledge of State and local laws and regulations which pertain to explosives.

Subpart V – Power Transmission and Distribution

1926.955 Overhead lines

- (e)(1) and (4) **(e) Live-line bare-hand work.** In addition to any other applicable standards contained elsewhere in this subpart all live-line bare-hand work shall be performed in accordance with the following requirements:
- (1) Employees shall be instructed and trained in the live-line bare-hand technique and the safety requirements pertinent thereto before being permitted to use the technique on energized circuits.
- (4) All work shall be personally supervised by a person trained and qualified to perform live-line bare-hand work.

Subpart X – Stairways and Ladders

1926.1060 Training requirements

(a)(1)(i) through (v), and (b) (2), regarding the hazards addressed in subpart X. The following training provisions clarify the requirements of 1926.21(b) (2), regarding the hazards addressed in subpart X.

- (a) The employer shall provide a training program for each employee using ladders and stairways, as necessary. The program shall enable each employee to recognize hazards related to ladders and stairways, and shall train each employee in the procedures to be followed to minimize these hazards.
 - (1) The employer shall ensure that each employee has been trained by a competent person in the following areas, as applicable:
 - (i) The nature of fall hazards in the work area;
 - (ii) The correct procedures for erecting, maintaining, and disassembling the fall protection systems to be used;
 - (iii) The proper construction, use, placement, and care in handling of all stairways and ladders;
 - (iv) The maximum intended load-carrying capacities of ladders used; and
 - (v) The standards contained in this subpart.
 - (b) Retraining shall be provided for each employee as necessary so that the employee maintains the understanding and knowledge acquired through compliance with this section.

Subpart Y – Diving

1926.1076 Qualifications of dive team

1910.410 (a)(1), (2), (3) and (4); (b) (1); (c)(1) and (2) **Note:** The requirements applicable to construction work under this section are identical to those set forth at 1910.410 of this chapter.

(a) General

- (1) Each dive team member shall have the experience or training necessary to perform assigned tasks in a safe and healthful manner.

- (2) Each dive team member shall have experience or training in the following:
 - (i) The use of tools, equipment and systems relevant to assigned tasks;
 - (ii) Techniques of the assigned diving mode; and
 - (iii) Diving operations and emergency procedures.
- (3) All dive team members shall be trained in cardiopulmonary resuscitation and first aid (American Red Cross standard course or equivalent).
- (4) Dive team members who are exposed to or control the exposure of others to hyperbaric conditions shall be trained in diving-related physics and physiology.

(b) Assignments

- (1) Each dive team member shall be assigned tasks in accordance with the employee's experience or training, except that limited additional tasks may be assigned to an employee undergoing training provided that these tasks are performed under the direct supervision of an experienced dive team member.

(c) Designated person-in-charge

- (1) The employer or an employee designated by the employer shall be at the dive location in charge of all aspects of the diving operation affecting the safety and health of dive team members.
- (2) The designated person-in-charge shall have experience and training in the conduct of the assigned diving operation.

Subpart Z – Toxic and Hazardous Substances

1926.1101 Asbestos

- (b); (g)(8)(vi)(B) and (11)(i) and (ii); (k)(6), (8)(i) and (vii); (9)(i) through (viii), and (10)(i) through (iii); (m)(1)(ii)(B); (n)(4); (o)(4)(i) and (ii); Appendix H (V)(A)
- (b) Definitions.**

Competent person means, in addition to the definition in 29 CFR 1926.32 (f), one who is capable of identifying existing asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, who has the authority to take prompt corrective measures to eliminate them, as specified in 29 CFR 1926.32(f); in addition, for Class I and Class II work who is specially trained in a training course which meets the criteria of EPA's Model Accreditation

Plan (40 CFR part 763) for supervisor, or its equivalent and, for Class III and Class IV work, who is trained in a manner consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92 (a)(2).

Industrial hygienist means a professional qualified by education, training, and experience to anticipate, recognize, evaluate and develop controls for occupational health hazards.

Project Designer means a person who has successfully completed the training requirements for an abatement project designer established by 40 U.S.C. 763.90(g).

(g) Methods of compliance

(8) *Additional Controls for Class II work.*

(vi) Alternative Work Practices and Controls

- (B) A competent person shall evaluate the work area, the projected work practices and the engineering controls, and shall certify in writing, that the different or modified controls are adequate to reduce direct and indirect employee exposure to below the PELs under all expected conditions of use and that the method meets the requirements of this standard. The evaluation shall include and be based on data representing employee exposure during the use of such method under conditions which closely resemble the conditions under which the method is to be used for the current job, and by employees whose training and experience are equivalent to employees who are to perform the current job.

(11) *Alternative methods of compliance for installation, removal, repair, and maintenance of certain roofing and pipeline coating materials.*

- (i) Before work begins and as needed during the job, a competent person who is capable of identifying asbestos hazards in the workplace and selecting the appropriate control strategy for asbestos exposure, and who has the authority to take prompt corrective measures to eliminate such hazards, shall conduct an inspection of the worksite and determine that the roofing material is intact and will likely remain intact.
- (ii) All employees performing work covered by this paragraph (g)(11) shall be trained in a training program that meets the requirements of paragraph (k)(9)(viii) of this section.

(k) Communication of hazards

- (6) At the entrance to mechanical rooms/areas in which employees reasonably can be expected to enter and which contain ACM and/or PACM, the building owner shall post signs which identify the material which is present, its location, and appropriate work practices which, if followed, will ensure that ACM and/or PACM will not be disturbed. The employer shall ensure, to the extent feasible, that employees who come in contact with these signs can comprehend them. Means to ensure employee comprehension may include the use of foreign languages, pictographs, graphics, and awareness training.
- (8) *Labels.*
 - (i) Labels shall be affixed to all products containing asbestos and to all containers containing such products, including waste containers. Where feasible, installed asbestos products shall contain a visible label.
 - (vii) When a building owner or employer identifies previously installed PACM and/or ACM, labels or signs shall be affixed or posted so that employees will be notified of what materials contain PACM and/or ACM. The employer shall attach such labels in areas where they will clearly be noticed by employees who are likely to be exposed, such as at the entrance to mechanical room/areas. Signs required by paragraph (k)(6) of this section may be posted in lieu of labels so long as they contain information required for labelling. The employer shall ensure, to the extent feasible, that employees who come in contact with these signs or labels can comprehend them. Means to ensure employee comprehension may include the use of foreign languages, pictographs, graphics, and awareness training.
- (9) *Employee Information and Training.*
 - (i) The employer shall train each employee who is likely to be exposed in excess of a PEL, and each employee who performs Class I through IV asbestos operations, in accordance with the requirements of this section. Such training shall be conducted at no cost to the employee. The employer shall institute a training program and ensure employee participation in the program.

- (ii) Training shall be provided prior to or at the time of initial assignment and at least annually thereafter.
- (iii) Training for Class I operations and for Class II operations that require the use of critical barriers (or equivalent isolation methods) and/or negative pressure enclosures under this section shall be the equivalent in curriculum, training method and length to the EPA Model Accreditation Plan (MAP) asbestos abatement workers training (40 CFR part 763, subpart E, appendix C).
- (iv) Training for other Class II work.
 - (A) For work with asbestos containing roofing materials, flooring materials, siding materials, ceiling tiles, or transite panels, training shall include at a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to that category. Such course shall include “hands-on” training and shall take at least 8 hours.
 - (B) An employee who works with more than one of the categories of material specified in paragraph (k)(9)(iv)(A) of this section shall receive training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.
 - (C) For Class II operations not involving the categories of material specified in paragraph (k)(9)(iv)(A) of this section, training shall be provided which shall include at a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to the category of material being removed, and shall include “hands-on” training in the work practices applicable to each category of material that the employee removes and each removal method that the employee uses.
- (v) Training for Class III employees shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR

763.92(a)(2). Such a course shall also include “hands-on” training and shall take at least 16 hours. Exception: For Class III operations for which the competent person determines that the EPA curriculum does not adequately cover the training needed to perform that activity, training shall include as a minimum all the elements included in paragraph (k)(9)(viii) of this section and in addition, the specific work practices and engineering controls set forth in paragraph (g) of this section which specifically relate to that activity, and shall include “hands-on” training in the work practices applicable to each category of material that the employee disturbs.

- (vi) Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not yet been certified; and instruction in recognition of damage, deterioration, and delamination of asbestos-containing building materials. Such course shall take at least 2 hours.
- (vii) Training for employees who are likely to be exposed in excess of the PEL and who are not otherwise required to be trained under paragraph (k)(9)(iii) through (vi) of this section, shall meet the requirements of paragraph (k)(9)(viii) of this section.
- (viii) The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by provisions in paragraphs (k)(9)(iii) through (vi) of this section, the employer shall ensure that each such employee is informed of the following:
 - (A) Methods of recognizing asbestos, including the requirement in paragraph (k)(1) of this section to presume that certain building materials contain asbestos;
 - (B) The health effects associated with asbestos exposure;

- (C) The relationship between smoking and asbestos in producing lung cancer;
 - (D) The nature of operations that could result in exposure to asbestos, the importance of necessary protective controls to minimize exposure including, as applicable, engineering controls, work practices, respirators, housekeeping procedures, hygiene facilities, protective clothing, decontamination procedures, emergency procedures, and waste disposal procedures, and any necessary instruction in the use of these controls and procedures; where Class III and IV work will be or is performed, the contents of EPA 20T-2003, “Managing Asbestos In-Place” July 1990 or its equivalent in content;
 - (E) The purpose, proper use, fitting instructions, and limitations of respirators as required by 29 CFR 1910.134;
 - (F) The appropriate work practices for performing the asbestos job;
 - (G) Medical surveillance program requirements;
 - (H) The content of this standard including appendices;
 - (I) The names, addresses and phone numbers of public health organizations which provide information, materials and/or conduct programs concerning smoking cessation. The employer may distribute the list of such organizations contained in Appendix J to this section, to comply with this requirement; and
 - (J) The requirements for posting signs and affixing labels and the meaning of the required legends for such signs and labels.
- (10) *Access to training materials.*
- (i) The employer shall make readily available to affected employees without cost, written materials relating to the employee training program, including a copy of this regulation.
 - (ii) The employer shall provide to the Assistant Secretary and the Director, upon request, all information and training materials relating to the employee information and training program.

- (iii) The employer shall inform all employees concerning the availability of self-help smoking cessation program material. Upon employee request, the employer shall distribute such material, consisting of NIH Publication No. 89-1647, or equivalent self-help material, which is approved or published by a public health organization listed in Appendix J to this section.

(m) Medical surveillance

- (1) *General.*
 - (ii) Examination
 - (B) Persons other than such licensed physicians who administer the pulmonary function testing required by this section shall complete a training course in spirometry sponsored by an appropriate academic or professional institution.

(n) Recordkeeping

- (4) *Training records.* The employer shall maintain all employee training records for one (1) year beyond the last date of employment by that employer.

(o) Competent person

- (4) *Training for the competent person.*
 - (i) For Class I and II asbestos work the competent person shall be trained in all aspects of asbestos removal and handling, including: abatement, installation, removal and handling; the contents of this standard; the identification of asbestos; removal procedures, where appropriate; and other practices for reducing the hazard. Such training shall be obtained in a comprehensive course for supervisors that meets the criteria of EPA's Model Accreditation Plan (40 CFR part 763, subpart E, appendix C), such as a course conducted by an EPA-approved or state-approved training provider, certified by EPA or a state, or a course equivalent in stringency, content, and length.
 - (ii) For Class III and IV asbestos work, the competent person shall be trained in aspects of asbestos handling appropriate for the nature of the work, to include procedures for setting up glove bags and mini-enclosures, practices for reducing asbestos exposures, use of wet methods, the contents of

this standard, and the identification of asbestos. Such training shall include successful completion of a course that is consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(2), or its equivalent in stringency, content and length. Competent persons for Class III and IV work may also be trained pursuant to the requirements of paragraph (o)(4)(i) of this section.

Appendix H to 1926.1101 — Substance Technical Information for Asbestos — Non-Mandatory

(Note: Part V of this Appendix provides a non-mandatory statement of workers' rights to Access to Information about their exposure to asbestos on worksites, including a reference to instruction in proper work practices to avoid unhealthful exposure to asbestos.)

V. Access to Information

- A. Each year, your employer is required to inform you of the information contained in this standard and appendices for asbestos. In addition, your employer must instruct you in the proper work practices for handling asbestos-containing materials, and the correct use of protective equipment.

1926.1126 Chromium (VI)

(j)(1) and (2) (j) Communication of chromium (VI) hazards to employees

- (1) *Hazard communication.* The employer shall include chromium (VI) in the program established to comply with the Hazard Communication Standard (HCS) (1910.1200). The employer shall ensure that each employee has access to labels on containers of chromium and safety data sheets, and is trained in accordance with the provisions of 1910.1200 and paragraph (j)(2) of this section. The employer shall provide information on at least the following hazards: cancer; eye irritation; and skin sensitization.
- (2) *Employee information and training.*
 - (i) The employer shall ensure that each employee can demonstrate knowledge of at least the following:
 - (A) The contents of this section; and
 - (B) The purpose and a description of the medical surveillance program required by paragraph (i) of this section.
 - (ii) The employer shall make a copy of this section readily available without cost to all affected employees.

1926.1127 Cadmium

- (b) (“Competent person”); and (m) (1) and (4)
- (b) Definitions.** *Competent person*, in accordance with 29 CFR 1926.32(f), means a person designated by the employer to act on the employer’s behalf who is capable of identifying existing and potential cadmium hazards in the workplace and the proper methods to control them in order to protect workers, and has the authority necessary to take prompt corrective measures to eliminate or control such hazards. The duties of a competent person include at least the following: Determining prior to the performance of work whether cadmium is present in the workplace; establishing, where necessary, regulated areas and assuring that access to and from those areas is limited to authorized employees; assuring the adequacy of any employee exposure monitoring required by this standard; assuring that all employees exposed to air cadmium levels above the PEL wear appropriate personal protective equipment and are trained in the use of appropriate methods of exposure control; assuring that proper hygiene facilities are provided and that workers are trained to use those facilities; and assuring that the engineering controls required by this standard are implemented, maintained in proper operating condition, and functioning properly.
- (m) Communication of cadmium hazards to employees**
- (1) *Hazard communication.* The employer shall include cadmium in the program established to comply with the Hazard Communication Standard (HCS) (1910.1200). The employer shall ensure that each employee has access to labels on containers of cadmium and safety data sheets, and is trained in accordance with the provisions of HCS and paragraph (m)(4) of this section. The employer shall provide information on at least the following hazards: cancer; lung effects; kidney effects; and acute toxicity effects.
- (4) *Employee information and training.*
- (i) The employer shall train each employee who is potentially exposed to cadmium in accordance with the requirements of this section. The employer shall institute a training program, ensure employee participation in the program, and maintain a record of the contents of the training program.
- (ii) Training shall be provided prior to or at the time of initial assignment to a job involving potential exposure to cadmium and at least annually thereafter.

- (iii) The employer shall make the training program understandable to the employee and shall assure that each employee is informed of the following:
 - (A) The health hazards associated with cadmium exposure, with special attention to the information incorporated in Appendix A to this section;
 - (B) The quantity, location, manner of use, release, and storage of cadmium in the workplace and the specific nature of operations that could result in exposure to cadmium, especially exposures above the PEL;
 - (C) The engineering controls and work practices associated with the employee's job assignment;
 - (D) The measures employees can take to protect themselves from exposure to cadmium, including modification of such habits as smoking and personal hygiene, and specific procedures the employer has implemented to protect employees from exposure to cadmium such as appropriate work practices, emergency procedures, and the provision of personal protective equipment;
 - (E) The purpose, proper selection, fitting, proper use, and limitations of respirators and protective clothing;
 - (F) The purpose and a description of the medical surveillance program required by paragraph (l) of this section;
 - (G) The contents of this section and its appendices, and,
 - (H) The employee's rights of access to records under 1926.33(g)(1) and (2).
- (iv) Additional access to information and training program and materials.
 - (A) The employer shall make a copy of this section and its appendices readily available to all affected employees and shall provide a copy without cost if requested.
 - (B) Upon request, the employer shall provide to the Assistant Secretary or the Director all materials relating to the employee information and the training program.

Subpart AA – Confined Spaces in Construction

1926.1207 Training

- (a) The employer must provide training to each employee whose work is regulated by this standard, at no cost to the employee, and ensure that the employee possesses the understanding, knowledge, and skills necessary for the safe performance of the duties assigned under this standard. This training must result in an understanding of the hazards in the permit space and the methods used to isolate, control or in other ways protect employees from these hazards, and for those employees not authorized to perform entry rescues, in the dangers of attempting such rescues.
- (b) Training required by this section must be provided to each affected employee:
 - (1) In both a language and vocabulary that the employee can understand;
 - (2) Before the employee is first assigned duties under this standard;
 - (3) Before there is a change in assigned duties;
 - (4) Whenever there is a change in permit space entry operations that presents a hazard about which an employee has not previously been trained; and
 - (5) Whenever there is any evidence of a deviation from the permit space entry procedures required by paragraph 1926.1204(c) of this standard or there are inadequacies in the employee's knowledge or use of these procedures.
- (c) The training must establish employee proficiency in the duties required by this standard and must introduce new or revised procedures, as necessary, for compliance with this standard.
- (d) The employer must maintain training records to show that the training required by paragraphs 1926.1207(a) through (c) of this standard has been accomplished. The training records must contain each employee's name, the name of the trainers, and the dates of training. The documentation must be available for inspection by employees and their authorized representatives, for the period of time the employee is employed by that employer.

1926.1211 Rescue and emergency services.

- (b) An employer whose employees have been designated to provide permit space rescue and/or emergency services must take the following measures and provide all equipment and training at no cost to those employees:
- (1) Provide each affected employee with the personal protective equipment (PPE) needed to conduct permit space rescues safely and train each affected employee so the employee is proficient in the use of that PPE;
 - (2) Train each affected employee to perform assigned rescue duties. The employer must ensure that such employees successfully complete the training required and establish proficiency as authorized entrants, as provided by 1926.1207 and 1926.1208 of this standard;
 - (3) Train each affected employee in basic first aid and cardiopulmonary resuscitation (CPR). The employer must ensure that at least one member of the rescue team or service holding a current certification in basic first aid and CPR is available; and
 - (4) Ensure that affected employees practice making permit space rescues before attempting an actual rescue, and at least once every 12 months, by means of simulated rescue operations in which they remove dummies, manikins, or actual persons from the actual permit spaces or from representative permit spaces, except practice rescue is not required where the affected employees properly performed a rescue operation during the last 12 months in the same permit space the authorized entrant will enter, or in a similar permit space. Representative permit spaces must, with respect to opening size, configuration, and accessibility, simulate the types of permit spaces from which rescue is to be performed.

Subpart CC – Cranes and Derricks in Construction

1926.1401 Definitions

Assembly/Disassembly means the assembly and/or disassembly of equipment covered under this standard. With regard to tower cranes, “erecting and climbing” replaces the term “assembly,” and “dismantling” replaces the term “disassembly.” Regardless of whether the crane is initially erected to its full height or is climbed in stages, the process of increasing the height of the crane is an erection process.

A/D director (Assembly/Disassembly director) means an individual who meets this subpart’s requirements for an A/D director, irrespective of the person’s formal job title or whether the person is non-management or management personnel.

Fall zone means the area (including but not limited to the area directly beneath the load) in which it is reasonably foreseeable that partially or completely suspended materials could fall in the event of an accident.

Qualified person means a person who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training and experience, successfully demonstrated the ability to solve/resolve problems relating to the subject matter, the work, or the project.

Qualified rigger is a rigger who meets the criteria for a qualified person.

1926.1404 Assembly/Disassembly — general requirements

(a), (b), (c) and **(applies to all assembly and disassembly operations)**

(d); and (r)(1)

(a) Supervision — competent-qualified person

- (1) Assembly/disassembly must be directed by a person who meets the criteria for both a competent person and a qualified person, or by a competent person who is assisted by one or more qualified persons (“A/D director”).
- (2) Where the assembly/disassembly is being performed by only one person, that person must meet the criteria for both a competent person and a qualified person. For purposes of this standard, that person is considered the A/D director.

(b) Knowledge of procedures. The A/D director must understand the applicable assembly/disassembly procedures.

- (c) **Review of procedures.** The A/D director must review the applicable assembly/disassembly procedures immediately prior to the commencement of assembly/disassembly unless the A/D director understands the procedures and has applied them to the same type and configuration of equipment (including accessories, if any).
- (d) **Crew instructions**
- (1) Before commencing assembly/disassembly operations, the A/D director must ensure that the crew members understand all of the following:
 - (i) Their tasks.
 - (ii) The hazards associated with their tasks.
 - (iii) The hazardous positions/locations that they need to avoid.
 - (2) During assembly/disassembly operations, before a crew member takes on a different task, or when adding new personnel during the operations, the requirements in paragraphs (d)(1)(i) through (d)(1)(iii) of this section must be met.
- (r) **Rigging.** In addition to following the requirements in 29 CFR 1926.251 and other requirements in this and other standards applicable to rigging, when rigging is used for assembly/disassembly, the employer must ensure that:
- (1) The rigging work is done by a qualified rigger.

1926.1408 Power line safety (up to 350 kV) — equipment operations

- (b)(1); (g)(1), (2) and (3) (b) **Preventing encroachment/electrocution**
- (1) Conduct a planning meeting with the operator and the other workers who will be in the area of the equipment or load to review the location of the power line(s), and the steps that will be implemented to prevent encroachment/electrocution.
- (g) **Training**
- (1) The employer must train each operator and crew member assigned to work with the equipment on all of the following:
 - (i) The procedures to be followed in the event of electrical contact with a power line. Such training must include:
 - (A) Information regarding the danger of electrocution from the operator simultaneously touching the equipment and the ground.

- (B) The importance to the operator's safety of remaining inside the cab except where there is an imminent danger of fire, explosion, or other emergency that necessitates leaving the cab.
- (C) The safest means of evacuating from equipment that may be energized.
- (D) The danger of the potentially energized zone around the equipment (step potential).
- (E) The need for crew in the area to avoid approaching or touching the equipment and the load.
- (F) Safe clearance distance from power lines.
- (ii) Power lines are presumed to be energized unless the utility owner/operator confirms that the power line has been and continues to be deenergized and visibly grounded at the worksite.
- (iii) Power lines are presumed to be uninsulated unless the utility owner/operator or a registered engineer who is a qualified person with respect to electrical power transmission and distribution confirms that a line is insulated.
- (iv) The limitations of an insulating link/device, proximity alarm, and range control (and similar) device, if used.
- (v) The procedures to be followed to properly ground equipment and the limitations of grounding.
- (2) Employees working as dedicated spotters must be trained to enable them to effectively perform their task, including training on the applicable requirements of this section.
- (3) Training under this section must be administered in accordance with 1926.1430(g).

1926.1419 Signals — general requirements

(c) Non-standard hand signals.

- (2) When using non-standard hand signals, the signal person, operator, and lift director (where there is one) must contact each other prior to the operation and agree on the non-standard hand signals that will be used.

1926.1423 Fall protection

- (k) **Training.** The employer must train each employee who may be exposed to fall hazards while on, or hoisted by, equipment covered by this subpart on all of the following:
- (1) the requirements in this subpart that address fall protection.
 - (2) the applicable requirements in 1926.500 and 1926.502

1926.1424 Work area control

(a) **Swing radius hazards**

- (2) To prevent employees from entering these hazard areas, the employer must:
 - (i) Train each employee assigned to work on or near the equipment (“authorized personnel”) in how to recognize struck-by and pinch/crush hazard areas posed by the rotating superstructure.
 - (ii) Erect and maintain control lines, warning lines, railings or similar barriers to mark the boundaries of the hazard areas.
Exception: When the employer can demonstrate that it is neither feasible to erect such barriers on the ground nor on the equipment, the hazard areas must be clearly marked by a combination of warning signs (such as “Danger—Swing/Crush Zone”) and high visibility markings on the equipment that identify the hazard areas. In addition, the employer must train each employee to understand what these markings signify.
- (3) *Protecting employees in the hazard area.*
 - (i) Before an employee goes to a location in the hazard area that is out of view of the operator, the employee (or someone instructed by the employee) must ensure that the operator is informed that he/she is going to that location.
 - (ii) Where the operator knows that an employee went to a location covered by paragraph (a)(1) of this section, the operator must not rotate the superstructure until the operator is informed in accordance with a pre-arranged system of communication that the employee is in a safe position.

- (b) Where any part of a crane/derrick is within the working radius of another crane/derrick, the controlling entity must institute a system to coordinate operations. If there is no controlling entity, the employer (if there is only one employer operating the multiple pieces of equipment), or employers, must institute such a system.

1926.1425 Keeping clear of the load

- (c) When employees are engaged in hooking, unhooking, or guiding the load, or in the initial connection of a load to a component or structure and are within the fall zone, all of the following criteria must be met:
 - (1) The materials being hoisted must be rigged to prevent unintentional displacement.
 - (2) Hooks with self-closing latches or their equivalent must be used. *Exception:* “J” hooks are permitted to be used for setting wooden trusses.
 - (3) The materials must be rigged by a *qualified rigger*.

1926.1427 Operator qualification and certification

- (f) and (g) **(f) Pre-qualification/certification training period.** An employee who is not qualified or certified under this section is permitted to operate equipment only as an operator-in-training and only where the requirements of this paragraph are met.
 - (1) The employer must provide each operator-in-training with sufficient training prior to operating the equipment to enable the operator-in-training to operate the equipment safely under limitations established by this section (including continuous monitoring) and any additional limitations established by the employer.
 - (2) The tasks performed by the operator-in-training while operating the equipment must be within the operator-in-training’s ability.
 - (3) *Trainer.* While operating the equipment, the operator-in-training must be continuously monitored by an individual (“operator’s trainer”) who meets all of the following requirements:
 - (i) The operator’s trainer is an employee or agent of the operator-in-training’s employer.
 - (ii) The operator’s trainer is either a certified operator under this section, or has passed the written portion of a certification test under one of the options in paragraphs (b) through (e) of this section, and is familiar with the proper use of the equipment’s controls.

- (iii) While monitoring the operator-in-training, the operator's trainer performs no tasks that detract from the trainer's ability to monitor the operator-in-training.
 - (iv) For equipment other than tower cranes: The operator's trainer and the operator-in-training must be in direct line of sight of each other. In addition, they must communicate verbally or by hand signals. For tower cranes: The operator's trainer and the operator-in-training must be in direct communication with each other.
- (4) *Continuous monitoring.* The operator-in-training must be monitored by the operator's trainer at all times, except for short breaks where all of the following are met:
- (i) The break lasts no longer than 15 minutes and there is no more than one break per hour.
 - (ii) Immediately prior to the break the operator's trainer informs the operator-in-training of the specific tasks that the operator-in-training is to perform and limitations to which he/she must adhere during the operator trainer's break.
 - (iii) The specific tasks that the operator-in-training will perform during the operator trainer's break are within the operator-in-training's abilities.
- (5) The operator-in-training must not operate the equipment in any of the following circumstances unless the exception stated in paragraph (f)(5)(v) of this section is applicable:
- (i) If any part of the equipment, load line or load (including rigging and lifting accessories), if operated up to the equipment's maximum working radius in the work zone (*see* 1926.1408(a)(1)), could get within 20 feet of a power line that is up to 350 kV, or within 50 feet of a power line that is over 350 kV.
 - (ii) If the equipment is used to hoist personnel.
 - (iii) In multiple-equipment lifts.
 - (iv) If the equipment is used over a shaft, cofferdam, or in a tank farm.
 - (v) In multiple-lift rigging operations, except where the operator's trainer determines that the operator-in-training skills are sufficient for this high-skill work.

- (g) Under this section, a testing entity is permitted to provide training as well as testing services as long as the criteria of the applicable accrediting agency (in the option selected) for an organization providing both services are met.

1926.1428 Signal person qualifications

- (c) **Qualification Requirements.** Each signal person must:
 - (1) Know and understand the type of signals used. If hand signals are used, the signal person must know and understand the Standard Method for hand signals.
 - (2) Be competent in the application of the type of signals used.
 - (3) Have a basic understanding of equipment operation and limitations, including the crane dynamics involved in swinging and stopping loads and boom deflection from hoisting loads.
 - (4) Know and understand the relevant requirements of 1926.1419 through 1926.1422 and 1926.1428.
 - (5) Demonstrate that he/she meets the requirements in paragraphs (c)(1) through (4) of this section through an oral or written test, and through a practical test.

1926.1430 Training

- (a) through (g) The employer must provide training as follows:
 - (a) **Overhead power lines.** The employer must train each employee specified in 1926.1408(g) and 1926.1410(m) in the topics listed in 1926.1408(g).
 - (b) **Signal persons.** The employer must train each employee who will be assigned to work as a signal person who does not meet the requirements of 1926.1428(c) in the areas addressed in that paragraph.
 - (c) **Operators**
 - (1) *Operators-in-Training for equipment where certification or qualification is required by this subpart.* The employer must train each operator-in-training in the areas addressed in 1926.1427(j). The employer must provide re-training if the operator-in-training does not pass a qualification or certification test.
 - (2) *Transitional Period.* During the four-year phase-in period for operator certification or qualification, as provided in 1926.1427(k), employers must train each operator who has not yet been certified or qualified in the areas addressed in 1926.1427(j).

- (3) *Operators excepted from the requirements of 1926.1427.* The employer must train each operator excepted under 1926.1427(a) from the requirements of 1926.1427 on the safe operation of the equipment the operator will be using.
- (4) The employer must train each operator of the equipment covered by this subpart in the following practices:
 - (i) On friction equipment, whenever moving a boom off a support, first raise the boom a short distance (sufficient to take the load of the boom) to determine if the boom hoist brake needs to be adjusted. On other types of equipment with a boom, the same practice is applicable, except that typically there is no means of adjusting the brake; if the brake does not hold, a repair is necessary. *See* 1926.1417(f) and (j) for additional requirements.
 - (ii) Where available, the manufacturer's emergency procedures for halting unintended equipment movement.
- (d) Competent persons and qualified persons.** The employer must train each competent person and each qualified person regarding the requirements of this subpart applicable to their respective roles.
- (e) Crush/pinch points.** The employer must train each employee who works with the equipment to keep clear of holes, and crush/pinch points and the hazards addressed in 1926.1424 (Work area control).
- (f) Tag-out.** The employer must train each operator and each additional employee authorized to start/energize equipment or operate equipment controls (such as maintenance and repair employees), in the tag-out and start-up procedures in 1926.1417(f) and (g).
- (g) Training administration**
 - (1) The employer must evaluate each employee required to be trained under this subpart to confirm that the employee understands the information provided in the training.
 - (2) The employer must provide refresher training in relevant topics for each employee when, based on the conduct of the employee or an evaluation of the employee's knowledge, there is an indication that retraining is necessary.
 - (3) Whenever training is required under subpart CC, the employer must provide the training at no cost to the employee.

1926.1436 Derricks

- (q) **Qualification and Training.** The employer must train each operator of a derrick on the safe operation of equipment the individual will operate. Section 1926.1427 of this subpart (Operator qualification and certification) does not apply.

1926.1438 Overhead & gantry cranes

- (a) **Permanently installed overhead and gantry cranes.** The requirements of 1910.179, except for 1910.179(b)(1), and not the requirements of this subpart CC, apply to the following equipment when used in construction and permanently installed in a facility: overhead and gantry cranes, including semigantry, cantilever gantry, wall cranes, storage bridge cranes, and others having the same fundamental characteristics.
- (b) **Overhead and gantry cranes that are not permanently installed in a facility.**
 - (2) The following requirements apply to equipment identified in paragraph (b)(1) of this section:
 - (i) Sections 1926.1400 through 1926.1414; 1926.1417 through 1926.1425; 1926.1426(d); 1926.1427 through 1926.1434; 1926.1437, 1926.1439, and 1926.1441. [NOTE: This includes training at 1926.1404 assembly-disassembly, 1926.1419 Signals-general requirements, 1926.1423 Fall protection, 1926.1408(g) for power line safety (up to 350kV) — equipment operations.]

1926.1441 Equipment with a rated hoisting/lifting capacity of 2,000 pounds or less

The following paragraphs of this section specify requirements for employers using equipment with a maximum rated hoisting/lifting capacity of 2,000 pounds or less.

- (a) The employer using this equipment must comply with the following provisions of this subpart:
- ... 1926.1407 through 1926.1411 (Power line safety)... [which directs employers to training requirements at 1926.1408(g)], sections 1926.1419 through 1926.1422 (Signals) [including 1419(c)(2) Non-standard hand signals. When using non-standard hand signal, the signal person, operator, and lift director (where there is one) must contact each other prior to the operation and agree on the non-standard hand signals that will be used.],
 - section 1926.1423 (Fall protection) [Including 1423(k) Training],
 - section 1926.1432 (Multiple-crane/derrick lifts-supplemental requirements) [including 1432(b)(2) The lift director must review the plan in a meeting with all workers who will be involved with the operation.],
 - section 1926.1437 (Floating cranes/derricks and land cranes/derricks on barges) [including 1437(c)(2)(ii) Clearly mark the hazard areas by a combination of warning signs (such as, “Danger-Swing/Crush Zone”) and high visibility markings on the equipment that identify the hazard areas. In addition, the employer must train each employee to understand what these markings signify.],
 - and section 1926.1438 (Overhead & gantry cranes) [NOTE: See 1438 above for requirements].
- (e) *Operator qualifications.* The employer must train each operator, prior to operating the equipment, on the safe operation of the type of equipment the operator will be using.
- (f) *Signal person qualifications.* The employer must train each signal person in the proper use of signals applicable to the use of the equipment.

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Agriculture

The following training requirements have been excerpted from ***Title 29, Code of Federal Regulations Part 1928***. Note that in addition to these requirements, ***Part 1910***, relating to general industry, also contains applicable training standards.

29 CFR 1928

Subpart C – Roll-Over Protective Structures

1928.51 Roll-Over protective structures (ROPS) for tractors used in agricultural operations

(d) **Operating instructions.** Every employee who operates an agricultural tractor shall be informed of the operating practices contained in Appendix A of this part and of any other practices dictated by the work environment. Such information shall be provided at the time of initial assignment and at least annually thereafter.

Appendix A to Subpart C of Part 1928 — Employee Operating Instructions

1. Securely fasten your seat belt if the tractor has a ROPS.
2. Where possible, avoid operating the tractor near ditches, embankments, and holes.
3. Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.
4. Stay off slopes too steep for safe operation.
5. Watch where you are going, especially at row ends, on roads, and around trees.
6. Do not permit others to ride.
7. Operate the tractor smoothly — no jerky turns, starts, or stops.
8. Hitch only to the drawbar and hitch points recommended by tractor manufacturers.
9. When tractor is stopped, set brakes securely and use park lock if available.

**1928.57 Guarding of farm field equipment, farmstead equipment,
and cotton gins**

(a)(6)(i) through
(v); and (d)(1)(viii)

(a) General —

- (6) *Operating instructions.* At the time of initial assignment and at least annually thereafter, the employer shall instruct every employee in the safe operation and servicing of all covered equipment with which he is or will be involved, including at least the following safe operating practices:
- (i) Keep all guards in place when the machine is in operation;
 - (ii) Permit no riders on farm field equipment other than persons required for instruction or assistance in machine operation;
 - (iii) Stop engine, disconnect the power source, and wait for all machine movement to stop before servicing, adjusting, cleaning, or unclogging the equipment, except where the machine must be running to be properly serviced or maintained, in which case the employer shall instruct employees as to all steps and procedures which are necessary to safely service or maintain the equipment;
 - (iv) Make sure everyone is clear of machinery before starting the engine, engaging power, or operating the machine;
 - (v) Lock out electrical power before performing maintenance or service on farmstead equipment.

(d) Cotton ginning equipment

- (1) *Power transmission components.*
- (viii) In power plants and power development rooms where access is limited to authorized personnel, guard railings may be used in place of guards or guarding by location. Authorized employees having access to power plants and power development rooms shall be instructed in the safe operation and maintenance of the equipment in accordance with paragraph (a)(6) of this section.

Subpart M – Occupational Health

1928.1027 Cadmium

Note: The requirements applicable to agricultural training requirements under this section are identical to those set forth in 29 CFR 1910.1027.



Photo: Caycee Cook

Federal Employee Programs

The following training requirements have been excerpted from ***Title 29, Code of Federal Regulations Part 1960***. Note that in addition to these requirements, ***Part 1910***, relating to general industry, also contains applicable training standards.

29 CFR 1960

Subpart B – Administration

1960.7 Financial management

- (c) Appropriate resources for an agency’s occupational safety and health program shall include, but not be limited to:
 - (1) Sufficient personnel to implement and administer the program at all levels, including necessary administrative costs such as training, travel, and personal protective equipment.

Subpart D – Inspection and Abatement

1960.25 Qualifications of safety and health inspectors and agency inspections

- (a) Executive Order 12196 requires that each agency utilize as inspectors “personnel with equipment and competence to recognize hazards.” Inspections shall be conducted by inspectors qualified to recognize

and evaluate hazards of the working environment and to suggest general abatement procedures. Safety and health specialists as defined in 29 CFR 1960.2(s), with experience and/or up-to-date training in occupational safety and health hazard recognition and evaluation are considered as meeting the qualifications of safety and health inspectors. For those working environments where there are less complex hazards, such safety and health specializations as cited above may not be required, but inspectors in such environments shall have sufficient documented training and/or experience in the safety and health hazards of the workplace involved to recognize and evaluate those particular hazards and to suggest general abatement procedures. All inspection personnel must be provided the equipment necessary to conduct a thorough inspection of the workplace involved.

Subpart E – General Services Administration and Other Federal Agencies

1960.34 General provisions

- (e) **Safety and health services.** The General Services Administration (GSA) will operate and maintain for user agencies the following services:
 - (1) Listings in the “Federal Supply Schedule” of safety and health services and equipment which are approved for use by agencies when needed. Examples of such services are: workplace inspections, training, industrial hygiene surveys, asbestos bulk sampling, and mobile health testing. Examples of such equipment are: personal protective equipment and apparel, safety devices, and environmental monitoring equipment.

Subpart F – Occupational Safety and Health Committees

1960.39 Agency responsibilities

- (b) Agencies shall provide all committee members appropriate training as required by subpart H of this part.

Subpart H – Training

1960.54 Training of top management officials

Each agency shall provide top management officials with orientation and other learning experiences which will enable them to manage the occupational safety and health programs of their agencies. Such orientation should include coverage of section 19 of the Act, Executive Order 12196, the requirements of this part, and the agency safety and health program.

1960.55 Training of supervisors

- (a) Each agency shall provide occupational safety and health training for supervisory employees that includes: supervisory responsibility for providing and maintaining safe and healthful working conditions for employees; the agency occupational safety and health program; section 19 of the Act; Executive Order 12196; this part; occupational safety and health standards applicable to the assigned workplaces; agency procedures for reporting hazards; agency procedures for reporting and investigating allegations of reprisal; and agency procedures for the abatement of hazards, as well as other appropriate rules and regulations.
- (b) This supervisory training should include introductory and specialized courses and materials which will enable supervisors to recognize and eliminate, or reduce, occupational safety and health hazards in their working units. Such training shall also include the development of requisite skills in managing the agency's safety and health program within the work unit, including the training and motivation of subordinates toward assuring safe and healthful work practices.

1960.56 Training of safety and health specialists

- (a) Each agency shall provide occupational safety and health training for safety and health specialists through courses, laboratory experiences, field study, and other formal learning experiences to prepare them to perform the necessary technical monitoring, consulting, testing, inspecting, designing, and other tasks related to program development and implementation, as well as hazard recognition, evaluation and control, equipment and facility design, standards, analysis of accident, injury, and illness data, and other related tasks.

- (b) Each agency shall implement career development programs for their occupational safety and health specialists to enable the staff to meet present and future program needs of the agency.

1960.57 Training of safety and health inspectors

Each agency shall provide training for safety and health inspectors with respect to appropriate standards, and the use of appropriate equipment and testing procedures necessary to identify and evaluate hazards and suggest general abatement procedures during or following their assigned inspections, as well as preparation of reports and other documentation to support the inspection findings.

Subpart K – Field Federal Safety and Health Councils

1960.85 Role of the Secretary

- (a) The Secretary shall maintain liaison with agency heads to ensure that they encourage their field activities to participate actively in field council programs. To ensure maximum participation, the field councils' annual reports to the Secretary shall provide descriptions of the degree of management and employee participation by the defined Federal field activities. The Secretary shall annually furnish each agency head with a report consolidating the information received as to the participation of the agency's several field installations in field council activities.
- (b) The Secretary shall provide leadership and guidance and make available necessary equipment, supplies, and staff services to the Field Federal Safety and Health Councils to assist them in carrying out their responsibilities. The Secretary shall also provide consultative and technical services to field councils. These services shall involve aid in any phase of developing and planning programs; and in sponsoring, conducting or supporting safety and health training courses.

Appendix A – Multilingual Resources

Below are resources to use when looking for (mostly) Spanish language safety and health material. Remember that simply translating English safety and health materials into Spanish or another language is not necessarily adequate for your target population to understand the material. There are many different terms and dialects in Spanish (and other languages) and you need to ensure that you are using the correct ones. Also, using the correct literacy level is just as important in other languages as it is in English. It is best to test the translated materials using a focus group made up of a subset of your target population.

OSHA Publications

OSHA Dictionaries (English and Spanish)

- Frequently Used Construction Industry Terms
- Frequently Used General Industry Terms
- General OSH Terms

OSHA Publications in Spanish and Other Languages

Many OSHA publications are available in both English and **Spanish**, as well as Portuguese, Russian and **other languages**. To order multiple copies of these resources, call OSHA's Publications Office at (202) 693-1888 or visit OSHA's Publications page at www.osha.gov/publications.

Adobe Reader is required to view PDF files.

OSHA Mobile-Friendly e-Books

Select OSHA publications are available in e-Book format. OSHA e-Books are designed to increase readability on smartphones, tablets and other mobile devices. For access, go to www.osha.gov/ebooks.

Susan Harwood Training Grant Products

This web site features training materials such as PowerPoint™ presentations, instructor and student manuals, and test questions developed by Susan Harwood grantees. These [resources](#) are available in multiple languages.

OSHA Safety Campaigns

OSHA's Campaign to Prevent Heat Illness in Outdoor Workers

OSHA's nationwide Heat Illness Prevention Campaign aims to raise awareness and teach workers and employers about the dangers of working in hot weather and provide valuable resources to address these concerns. Begun in 2011, the Heat Illness Prevention Campaign has reached more than 10 million people and distributed close to half a million fact sheets, posters, QuickCards™, training guides and wallet cards. OSHA, together with other federal and state agencies and non-governmental organizations, spreads the word about preventing heat illness. For example, OSHA collaborates with the National Oceanic and Atmospheric Administration's (NOAA) National Weather Service to include worker safety precautions in [Excessive Heat Watch, Warning, and Advisory Products](#).

Available on this web page are numerous resources that can be used to prevent heat illnesses:

- The [Educational Resources](#) section links to information about heat illnesses and how to prevent them. Many of these resources target vulnerable workers with limited English proficiency and/or low literacy.
- The [Using the Heat Index](#) section provides guidance to help employers develop a heat illness prevention plan.
- The [Training](#) section includes a guide to help employers and others to teach workers about heat illness. There are links to more resources in other languages.
- The [Online Toolkit](#) section includes news releases, public service announcements, drop-in articles about heat illness prevention that you can customize to share, and campaign artwork.
- The [Fatality Map](#) is an interactive infographic representing many of the heat-related fatalities that occurred outdoors between 2008 and 2014. The map provides a geographic reminder that *Water.Rest.Shade.* is vital to providing a safe and healthful environment when working outdoors in the heat.

The Heat Illness web page and many resources are available [en español](#).

OSHA's Fall Prevention Campaign

This campaign is part of OSHA's nationwide effort to raise awareness among workers and employers about the hazards of falls from ladders, scaffolds and roofs. The educational resources page gives workers and employers information about falls and how to prevent them. There are also training tools for employers to use and posters to display at their worksites. Many of the new resources target vulnerable workers with limited English proficiency.

The Fall Prevention web page and many resources are available [en español](#).

Fall Prevention Videos (v-Tools)

Videos are an effective educational tool. Several workplace training videos, based on true stories, examine how falls lead to death and how these fatal falls could have been prevented.

These training tools (v-Tools) explain why using the right type of fall protection equipment allows workers to return home the same way they go to work each day.

You can download the following videos in English and Spanish, read the transcripts or watch the videos on YouTube:

Falls in Construction

- Floor Openings
- Fixed Scaffolds
- Bridge Decking
- Reroofing
- Leading Edge Work

V-Tools on other [construction hazards](#) are also available.



OSHA State Plan Foreign Language Safety and Health Resources

State Plan Spanish language resource page

This page lists examples of Spanish language resources from OSHA state plan states. This listing also includes selected Spanish language resources from state agencies in states under Federal OSHA jurisdiction.

Other Foreign Language Safety and Health Resources

National Institute for Occupational Safety and Health (NIOSH)

This site includes links to NIOSH publications in Spanish on a variety of construction topics, and also provides links to other agencies and organizations that have Spanish language resources.

Electronic Library of Construction Occupational Safety and Health (eLCOSH)

This electronic library was developed and is maintained by CPWR — The Center for Construction Research and Training — and provides a wide range of materials on construction safety and health. The goal is to improve safety and health for construction workers by making such information more accessible.

Information is available [here](#) in English, Spanish, and other languages.

Georgia Tech Spanish Language Construction Training Website

This site provides training guides in Spanish on several construction safety and health topics — scaffolding, fall protection, electricity, handling of objects/materials, and trenches and excavations. For each topic, there are educational materials in various formats, including posters, pamphlets, tailgate session guides, and formal presentations.

Labor Occupational Health Program (LOHP), UC Berkeley

This site provides training guides in English, Spanish, Chinese, Korean, and Vietnamese to assist trainers in homecare, restaurant safety, janitorial safety, agriculture and other industries.

LOHP Multilingual Resource Guide

This guide contains an extensive collection of links to worker safety and health training materials (such as fact sheets, curricula, and checklists) that are available from many sources online in languages other than English.

Occupational Health Branch, California Department of Health Services

BuildSafe produced a safety and health tailgate training kit in English and Spanish. The kit consists of Safety Break cards that cover 23 general construction safety topics and are linked to information in the *Cal/OSHA Pocket Guide for the Construction Industry*. These cards are simple to use and designed to improve the quality of tailgates.

Mi Trabajo Seguro (My Safe Job)

This Spanish language web site provides safety and health information for construction workers. Developed in collaboration with the hit *telenovela* “Pecados Ajenos” (“Sins of Others”), this site introduces helpful construction safety information that follows a construction safety storyline on the show.

Appendix B – References

- *A Worker's Sourcebook: Spanish Language Health and Safety Materials for Workers*, University of California, Los Angeles, Labor and Occupational Safety and Health.
- *Assessing Occupational Safety and Health Training: A Literature Review*, U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 98-145, June 1998.
- *Criteria for Accepted Practices in Safety, Health, and Environmental Training*, American National Standards Institute, Inc. (ANSI)/American Society of Safety Engineers (ASSE), Z490.1-2009.
- Delp, L. et al, *Teaching for Change: Popular Education and the Labor Movement*, UCLA Center for Labor Research and Education, 2002.
- *Evaluation of the Limited English Proficiency and Hispanic Worker Initiative*, U.S. Department of Labor, Employment and Training Administration, Prepared by Coffey Consulting, December 2009.
- *Immigrant Worker Safety and Health Report*, from a conference on research needs, draft NIOSH scientific information disseminated for peer review, NIOSH and University of Massachusetts Lowell, April 2010.
- *Minimum Health and Safety Training Criteria: Guidance for Hazardous Waste Operations and Emergency Response (HAZWOPER), HAZWOPER-Supporting and All-Hazards Disaster Prevention, Preparedness and Response*, National Institute of Environmental Health Sciences (NIEHS) Worker Education and Training Program (WETP), January 2006.
- *ODP Blended Learning Approach*, version 1.0, ODP/DHS, November 27, 2003.
- *OSHA Outreach Training Program Guidelines*, U.S. Department of Labor, Occupational Safety and Health Administration, February 2009.
- *OSHA Training Standards Policy Statement*, U.S. Department of Labor, Occupational Safety and Health Administration, April 28, 2010.
- *Report from the 1999 National Conference on Workplace Safety & Health Training: Putting the Pieces Together & Planning for the Challenges Ahead*, Co-sponsored by the National Institute of Environmental Health Sciences and the Occupational Safety and Health Administration, Department of Health and Human Services, HHS (NIOSH) Publication No. 2004-132, February 2004.
- Robson L., Stephenson C., Schulte P., Amick B., Chan S., Bielecky A., Wang A., Heidotting T., Irvin E., Eggerth D., Peters R., Clarke J., Cullen K., Boldt L., Grubb P., A systematic review of the effectiveness of training & education for the protection of workers. Toronto: Institute for Work & Health, 2010; Cincinnati, OH: National Institute for Occupational Safety and Health, DHHS (NIOSH) Publication No. 2010-127.

- Szudy, Elizabeth and Gonzalez Arroyo, Michele, *The Right to Understand: Linking Literacy to Health and Safety Training, Labor Occupational Health Program*, University of California at Berkeley, 1994.
- Wallerstein, N. and Rubenstein, H., *Teaching about Job Hazards, A Guide for Workers and Their Health Providers*, American Public Health Association, 1993.

Appendix C – States with Approved OSHA Plans

Private Sector Workers

OSHA covers most private sector employers and workers in all 50 states, the District of Columbia, and other U.S., jurisdictions either directly through Federal OSHA or through an OSHA-approved state plan.

State plans are OSHA-approved job safety and health programs operated by individual states instead of Federal OSHA. The OSH Act encourages states to develop and operate their own job safety and health programs and precludes state enforcement of OSHA standards unless the state has an approved program. OSHA approves and monitors all state plans and provides as much as fifty percent of the funding for each program. State-run safety and health programs must be at least as effective as the Federal OSHA program. To find the contact information for the OSHA Federal or state plan office nearest you, call 1-800-321-OSHA (6742) or go to www.osha.gov.

The following 22 states or territories have OSHA-approved state programs:

- Alaska
- Arizona
- California
- Hawaii
- Indiana
- Iowa
- Kentucky
- Maryland
- Michigan
- Minnesota
- Nevada
- New Mexico
- North Carolina
- Oregon
- Puerto Rico
- South Carolina
- Tennessee
- Utah
- Vermont
- Virginia
- Washington
- Wyoming

Federal OSHA provides coverage to certain workers specifically excluded from a state's plan — for example, those in some states who work in maritime industries or on military bases.

State and Local Government Workers

Workers at state and local government agencies are not covered by Federal OSHA, but have OSH Act protections if they work in those states that have an OSHA-approved state program.

OSHA rules also permit states and territories to develop plans that cover only public sector (state and local government) workers. In these cases, private sector workers and employers remain under Federal OSHA jurisdiction. Five additional states and one U.S. territory have OSHA-approved state plans that cover public sector workers only:

- *Connecticut*
- *Maine*
- *New York*
- *Illinois*
- *New Jersey*
- *Virgin Islands*

Federal Government Workers

OSHA's protection applies to all federal agencies. Section 19 of the OSH Act makes federal agency heads responsible for providing safe and healthful working conditions for their workers. Although OSHA does not fine federal agencies, it does monitor these agencies and conducts federal workplace inspections in response to workers' reports of hazards. The six-digit code for this document is 811173

Federal agencies must have a safety and health program that meets the same standards as private employers. Under a 1998 amendment, the OSH Act covers the U.S. Postal Service the same as any private sector employer.

Not Covered under the OSH Act

- The self-employed;
- Immediate family members of farm employers; and
- Workplace hazards regulated by another federal agency (for example, the Mine Safety and Health Administration, the Department of Energy, or Coast Guard).

Appendix D – Free On-site Safety and Health Consultation Services for Small Business

OSHA's On-site Consultation Program offers free and confidential advice to small and medium-sized businesses in all states across the country, with priority given to high-hazard worksites. Each year, responding to requests from small business owners looking to create or improve their safety and health management programs, OSHA's On-site Consultation Program conducts over 29,000 visits to small business worksites covering over 1.5 million workers across the nation.

On-site consultation services are separate from enforcement and do not result in penalties or citations. Consultants from state agencies or universities work with employers to identify workplace hazards, provide advice on compliance with OSHA standards, and assist in establishing safety and health management programs.

For more information, to find the local On-site Consultation office in your state, or to request a brochure on Consultation Services, visit www.osha.gov/consultation, or call 1-800-321-OSHA (6742).

Under the consultation program, certain exemplary employers may request participation in OSHA's **Safety and Health Achievement Recognition Program (SHARP)**. Eligibility for participation includes, but is not limited to, receiving a full-service, comprehensive consultation visit, correcting all identified hazards and developing an effective safety and health management program. Worksites that receive SHARP recognition are exempt from programmed inspections during the period that the SHARP certification is valid.

Appendix E – NIOSH Health Hazard Evaluation Program

Getting Help with Health Hazards

The National Institute for Occupational Safety and Health (NIOSH) is a federal agency that conducts scientific and medical research on workers' safety and health. At no cost to employers or workers, NIOSH can help identify health hazards and recommend ways to reduce or eliminate those hazards in the workplace through its Health Hazard Evaluation (HHE) Program.

Workers, union representatives and employers can request a NIOSH HHE. An HHE is often requested when there is a higher-than-expected rate of a disease or injury in a group of workers. These situations may be the result of an unknown cause, a new hazard, or a mixture of sources. To request a NIOSH Health Hazard Evaluation go to www.cdc.gov/niosh/hhe/request.html. To find out more, in English or Spanish, about the Health Hazard Evaluation Program:

E-mail HHERequestHelp@cdc.gov or call 800-CDC-INFO (800-232-4636).

Appendix F – OSHA Regional Offices

Region I

Boston Regional Office
(CT*, ME*, MA, NH, RI, VT*)
JFK Federal Building, Room E340
Boston, MA 02203
(617) 565-9860 (617) 565-9827 Fax

Region II

New York Regional Office
(NJ*, NY*, PR*, VI*)
201 Varick Street, Room 670
New York, NY 10014
(212) 337-2378 (212) 337-2371 Fax

Region III

Philadelphia Regional Office
(DE, DC, MD*, PA, VA*, WV)
The Curtis Center
170 S. Independence Mall West
Suite 740 West
Philadelphia, PA 19106-3309
(215) 861-4900 (215) 861-4904 Fax

Region IV

Atlanta Regional Office
(AL, FL, GA, KY*, MS, NC*, SC*, TN*)
61 Forsyth Street, SW, Room 6T50
Atlanta, GA 30303
(678) 237-0400 (678) 237-0447 Fax

Region V

Chicago Regional Office
(IL*, IN*, MI*, MN*, OH, WI)
230 South Dearborn Street, Room 3244
Chicago, IL 60604
(312) 353-2220 (312) 353-7774 Fax

Region VI

Dallas Regional Office
(AR, LA, NM*, OK, TX)
525 Griffin Street, Room 602
Dallas, TX 75202
(972) 850-4145 (972) 850-4149 Fax
(972) 850-4150 FSO Fax

Region VII

Kansas City Regional Office
(IA*, KS, MO, NE)
Two Pershing Square Building
2300 Main Street, Suite 1010
Kansas City, MO 64108-2416
(816) 283-8745 (816) 283-0547 Fax

Region VIII

Denver Regional Office
(CO, MT, ND, SD, UT*, WY*)
Cesar Chavez Memorial Building
1244 Speer Blvd., Suite 551
Denver, CO 80204
(720) 264-6550 (720) 264-6585 Fax

Region IX

San Francisco Regional Office
(AZ*, CA*, HI*, NV*, and American Samoa,
Guam and the Northern Mariana Islands)
90 7th Street, Suite 18100
San Francisco, CA 94103
(415) 625-2547 (415) 625-2534 Fax

Region X

Seattle Regional Office
(AK*, ID, OR*, WA*)
300 Fifth Avenue, Suite 1280
Seattle, WA 98104
(206) 757-6700 (206) 757-6705 Fax

*These states and territories operate their own OSHA-approved job safety and health plans and cover state and local government employees as well as private-sector employees. The Connecticut, Illinois, Maine, New Jersey, New York and Virgin Islands programs cover public employees only. (Private-sector workers in these states are covered by Federal OSHA). States with approved programs must have standards that are identical to, or at least as effective as, the Federal OSHA standards.

Note: To get contact information for OSHA area offices, OSHA-approved state plans and OSHA consultation projects, please visit us online at www.osha.gov or call us at 1-800-321-OSHA (6742).

How to Contact OSHA

For questions or to get information or advice, to report an emergency, fatality, inpatient hospitalization, amputation, or loss of an eye, or to file a confidential complaint, contact your nearest OSHA office, visit www.osha.gov or call OSHA at 1-800-321-OSHA (6742), TTY 1-877-889-5627.

**For assistance, contact us.
We are OSHA. We can help.**





U.S. Department of Labor

For more information:



www.osha.gov (800) 321-OSHA (6742)