HIOSH DIRECTIVE

DIRECTIVE NO.: CPL 02-00-154	EFFECTIVE DATE: August 31, 2012
SUBJECT: Longshoring and Marine Terminals "Tool Shed" Directive	

This CPL is adopted by HIOSH in its entirety.

OSHA INSTRUCTION

U.S. DEPARTMENT OF LABOR — Occupational Safety and Health Administration

DIRECTIVE NUMBER: CPL 02-00-154 | **EFFECTIVE DATE: July 31, 2012**

SUBJECT: Longshoring and Marine Terminals "Tool Shed" Directive

ABSTRACT

Purpose: To provide OSHA offices, interested industry representatives, and State and federal agencies with guidance concerning the application of occupational safety and health standards in longshoring and marine terminal activities. Also, this instruction provides current information and ensures consistent enforcement of OSHA's marine cargo handling industry standards (29 CFR Parts 1917 and 1918).

Scope: OSHA-wide.

References: See paragraph V.

Cancellations: See paragraph III.

State Impact: Notice of Intent and Equivalency Required.

Action Offices: National, Regional, Area, and State Plan Offices.

Originating Office: Directorate of Enforcement Programs.

Contact: Director, Office of Maritime Enforcement
200 Constitution Avenue, N.W., Room N-3610
Washington, DC 20210
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By and Under the Authority of

David Michaels, PhD, MPH
Assistant Secretary

Executive Summary

This instruction provides guidance to the Occupational Safety and Health Administration (OSHA) national, regional and area offices; employers and employees; State programs; and federal agencies concerning OSHA's policies and procedures for implementing intervention and inspection programs to reduce or eliminate workplace hazards in longshoring operations and at marine terminals (collectively known as the "marine cargo handling industry"). Further, this instruction provides current information and ensures consistent enforcement of OSHA's marine cargo handling industry standards (29 CFR Parts 1917 and 1918).

This instruction provides information and enforcement guidance to support OSHA's inspection efforts in longshoring operations, marine terminals and:

- Provides OSHA compliance officers and consultants, and other interested government and industry parties, with information to support marine cargo handling industry intervention efforts and to minimize employee exposure to hazards.
- Supports the *Department of Labor's Strategic Plan FY 2011-2016* for increased emphasis on reducing workplace injuries, illnesses and fatalities.
- Supports the reduction of occupational exposure to hazards through direct intervention; the promotion of a safety and health culture through compliance assistance, cooperative programs and strong leadership; and maximizes OSHA's effectiveness and efficiency by strengthening its capabilities and infrastructure.

Significant Changes

This instruction has been revised and updated to include the following significant changes:

- Provides information and guidance on Vertical Tandem Lifts (VTLs), both on the regulations and the court decision regarding the challenge by industry to those regulations.
- Clarifies personal protective equipment (PPE) for 29 CFR Parts 1917 and 1918 that employers must provide at no cost to their employees, when employers must pay for replacement PPE, and when employers are not required to pay for PPE (Appendix A).
- Provides information on the changes to Marine Terminals (29 CFR Part 1917) and Safety and Health Regulations for Longshoring (29 CFR Part 1918) made by the SIP-III regulations.
- Incorporates the Settlement Agreement between the National Grain and Feed Association, Inc., and the Occupational Safety and Health Administration, U.S. Department of Labor, into this directive (Appendix E).
- Updates answers to commonly asked maritime cargo handling questions in Appendix F, by incorporating recently issued interpretations (New and modified Q&A's are numbers 1, 2, 3, 7, 15, 16, 17, 26, 40, and 41).
- Delivers available marine cargo handling industry safety and health information in a web-based format with electronic links to noted references.

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I. Purpose. This instruction provides guidance to the Occupational Safety and Health Administration (OSHA) national, regional and area offices; employers and employees; State programs; and federal agencies concerning OSHA's policies and procedures for implementing intervention and inspection programs to reduce or eliminate workplace hazards in longshoring operations and at marine terminals (collectively known as the "marine cargo handling industry"). Further, this instruction provides current information and ensures consistent enforcement of OSHA's marine cargo handling industry standards (29 CFR Parts 1917 and 1918).

II. Scope. This instruction applies OSHA-wide.

III. Cancellation. This instruction cancels or supersedes the following:

A. CPL 02-00-066, *Settlement Agreement between the National Grain and Feed Association, Inc., and the Occupational Safety and Health Administration, U.S. Department of Labor*, July 15, 1985. (Superseded by incorporation into Appendix E of this directive)

B. CPL 02-00-139, *Longshoring and Marine Terminals "Tool Shed" Directive*, May 23, 2006. (Superseded by this directive)

C. CPL 02-01-027 (CPL 2-1.27), *Focused Inspection Program for Intermodal Container Top Fall Protection*, May 12, 1998. (Cancelled)

D. CSP 01-01-020 (STP 2-1.141), *Servicing of Single Piece and Multi-Piece Rim Wheels at Marine Terminals*, December 2, 1987. (Cancelled)

E. STD 02-01-009 (STD 2-1.9), *Hazard Alert – Use of 4x29 Wire Rope as Cargo Runner (Hoisting Wire) for Loading/Discharging Cargo in the United States*, October 1, 1990. (Superseded by incorporation into Appendix F of this directive)

IV. Significant Changes. This instruction has been revised and updated to include significant changes as follows:

- Provides information and guidance on Vertical Tandem Lifts (VTLs), both on the regulations and the court decision regarding the challenge by industry to those regulations.

- Clarifies personal protective equipment (PPE) for 29 CFR Parts 1917 and 1918 that employers must provide at no cost to their employees, when employers must pay for replacement PPE, and when employers are not required to pay for PPE (Appendix A).

- Provides information on the changes to Marine Terminals (29 CFR Part 1917) and Safety and Health Regulations for Longshoring (29 CFR Part 1918) by the SIP-III regulations.

- Incorporates the Settlement Agreement between the National Grain and Feed Association, Inc., and the Occupational Safety and Health Administration, U.S. Department of Labor, into this directive (Appendix E).

- Updates answers to commonly asked maritime cargo handling questions in Appendix F, by incorporating recently issued interpretations (New and modified Q&A's are numbers 1, 2, 3, 7, 15, 16, 17, 26, 40, and 41).

- Delivers available marine cargo handling industry safety and health information in a web-based format with electronic links to noted references.

V. References.

A. Standards.

1. 29 CFR Part 1910, General Industry Standards.

2. 29 CFR Part 1917, Marine Terminals Standards.

3. 29 CFR Part 1918, Longshoring Standards.

4. 29 CFR Part 1919, Gear Certification Standards.

5. 29 CFR Part 1960, Basic Program Elements for Federal Employee Occupational Safety and Health Programs and Related Matters.

6. 62 F.R. 40141-40234, Longshoring and Marine Terminals; Final Rule, July 25, 1997.

7. 63 F.R. 1152, 29 CFR Parts 1910 and 1926, Respiratory Protection; Final Rule, January 8, 1998.

8. 65 F.R. 40935-40951, Longshoring, Marine Terminals, and Gear Certification; Final Rule, June 30, 2000.

9. 72 F.R. 64341-64430, Employer Payment for Personal Protective Equipment; Final Rule, November 15, 2007.

10. 73 F.R. 75245-75290, Longshoring and Marine Terminals; Vertical Tandem Lifts; Final Rule, December 10, 2008.

11. 74 F.R. 46350-46361, Updating OSHA Standards Based on National Consensus Standards; Personal Protective Equipment, September 9, 2009.

12. 76 F.R. 33590-33612, Standards Improvement Project-III; Final Rule, June 8, 2011.

13. Occupational Safety and Health Act of 1970 (29 U.S.C. §654(a)(1-2)).

B. OSHA Directives.

1. OSHA Instruction CPL 02-00-025, *Scheduling Systems for Programmed Inspections*, January 4, 1995.

2. OSHA Instruction CPL 02-00-051, *Enforcement Exemptions and Limitations Under the Appropriations Act*, May 28, 1998.

3. OSHA Instruction CPL 02-00-137, *Fatality/Catastrophe Investigation Procedures*, April 14, 2005.

4. OSHA Instruction CPL 02-00-140, *Complaint Policies and Procedures*, June 23, 2006.

5. OSHA Instruction CPL 02-00-149, *Severe Violator Enforcement Program (SVEP)*, June 18, 2010.

6. OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM)*, April 22, 2011.

7. OSHA Instruction CPL 02-00-151, *29 CFR Part 1910, Subpart T – Commercial Diving Operations*, June 13, 2011.

8. OSHA Instruction CPL 02-01-028, *Compliance Assistance for the Powered Industrial Truck Operators Training Standards*, November 30, 2000.

9. OSHA Instruction CPL 02-01-039, *Enforcement of Cargo Gear Regulations and the Requirements for Gear Certification in the Maritime Program*, March 24, 2003.

10. OSHA Instruction CPL 02-01-047, *OSHA Authority Over Vessels and Facilities on or Adjacent to U.S. Navigable Waters and the Outer Continental Shelf (OCS)*, February 22, 2010.

11. OSHA Instruction CPL 02-02-074, *Inspection Procedures for the Chromium (VI) Standards*, January 24, 2008.

12. OSHA Instruction CPL 02-02-076, *National Emphasis Program – Hexavalent Chromium*, February 23, 2010.

13. OSHA Instruction CPL 03-00-007, *National Emphasis Program – Crystalline Silica*, January 24, 2008.

14. OSHA Instruction CPL 03-00-008, *Combustible Dust National Emphasis Program (Reissued)*, March 11, 2008.

15. OSHA Instruction CPL 03-00-009, *National Emphasis Program – Lead*, August 14, 2008.

16. OSHA Notice CPL 11-03 (CPL 02), *Site-Specific Targeting 2010 (SST-11)*, September 9, 2011.

17. OSHA Instruction CSP 02-00-002, *Consultation policies and Procedures Manual*, January 18, 2008.

18. OSHA Instruction CSP 03-01-003, *Voluntary Protection Programs (VPP): Policies and Procedures Manual*, April 18, 2008.

19. OSHA Instruction CSP 03-02-002, *OSHA Strategic Partnership Program for Worker Safety and Health*, December 9, 2004.

C. Other references.

OSHA has developed numerous products, both electronic and traditional paper copy, to assist national, regional, and area offices; employers and employees; State programs; and federal agencies to reduce or eliminate workplace hazards in longshoring operations and at marine terminals (collectively known as the "marine cargo handling industry"). Electronic products include websites, eTools, and videos. Traditional, paper copy products include guidance documents, fact sheets, flyers, etc., which also are available electronically. Section XIII. Outreach and Cooperative Programs of this instruction has more detailed information regarding these products, including hyperlinks where appropriate.

VI. Expiration Date. This instruction will remain in effect until canceled or superseded by another instruction or notice.

VII. Federal Program Change – Notice of Intent and Equivalency Required. This instruction describes a federal program change which provides guidance concerning OSHA's policy and procedures on the enforcement of longshoring and marine terminal standards in the maritime industry. States with OSHA-approved State Plans that cover private-sector maritime employment (i.e., activities addressed in 29 CFR Part 1915 – Shipyard Employment and 29 CFR Part 1917 – Marine Terminals), as well as those with public-sector employees engaged in these activities, are expected to have enforcement policies and procedures in place for their maritime operations which are at least as effective as those in this instruction. All States with OSHA-approved State Plans cover State and local government employees, including any public-sector employees that may be engaged in maritime activities; only California, Minnesota, Vermont and Washington cover private-sector shore-side operations for marine terminals. (See 29 CFR 1952, *Approved State Plans for Enforcement of State Standards*)

States with private or public-sector marine terminal employees within their jurisdiction are required to notify OSHA within 60 days whether they intend to adopt policies and procedures identical to those in this instruction or adopt or maintain different policies and procedures. States without any private or public-sector marine terminal employment should indicate this in their response.

If a State adopts or maintains policies and procedures that differ from federal policies and procedures, the State must identify the differences and may either post its policy on its website and provide the link to OSHA or submit an electronic copy to OSHA with information on how the public may obtain a copy. If a State adopts policies and procedures that are identical to federal policies and procedures, the State must provide the date of adoption to OSHA. State adoption must be accomplished within 6 months, with posting or submission of documentation within 60 days of adoption. OSHA will provide summary information on the State response to this instruction on its website at www.osha.gov/dcsp/osp/index.html.

VIII. Action Information.

A. Responsible Office. Directorate of Enforcement Programs (DEP), Office of Maritime Enforcement (OME).

B. Action Offices. OSHA Regional Administrators, Area Directors, State Plan Designees and National Office Directors must ensure that the policies and procedures set forth in this instruction are followed.

Regional Administrators also must ensure that Consultation Program Managers in their regions are informed of the requirements of this instruction and encourage the involvement of On-site Consultation Projects in marine cargo handling industry employment.

IX. Federal Agencies. This instruction describes a change that may affect federal agencies. It is the responsibility of the head of each federal agency to establish and maintain an effective and comprehensive safety and health program. Executive Order 12196, Section 1-201 and 29 CFR 1960.16 requires federal agencies to adopt policies and procedures necessary to provide a level of protection equivalent to that provided by OSHA standards and regulations.

X. Definitions. (29 CFR 1917.2, 29 CFR 1918.2, and OSHA policy guidance)

A. *Danger Zone*: Any place in or about a machine or piece of equipment where an employee may be struck by or caught between moving parts, caught between moving and stationary objects or parts of the machine, caught between the material and a moving part of the machine, burned by hot surfaces or exposed to electric shock. Examples of danger zones are nip and shear points, shear lines, drive mechanisms, and areas beneath counterweights.

B. *Data Initiative (or Data Survey)*: The Data Initiative is a nationwide collection of establishment-specific injury and illness data from approximately 80,000 employers in selected high hazard industries. The Data Initiative is OSHA's Annual Survey Form referenced in 29 CFR 1904.41.

C. *Days Away, Restricted, or Transferred (DART) Rate*: This includes cases involving days away from work, restricted work activity, and transfers to another job and is calculated based on (N/EH) x (200,000) where N is the number of cases involving days away and/or job transfer or restriction, EH is the total number of hours worked by all employees during the calendar year, and 200,000 is the base for 100 full-time equivalent employees (2,000 hours per worker x 100 workers). The DART rate replaced the Lost Workday Injury and Illness (LWDII) rate effective January 1, 2002.

D. *Designated Person*: A person who possesses specialized abilities in a specific area and is assigned by the employer to perform a specific task in that area.

E. *Dockboards (Car and Bridge Plates)*: Devices for spanning short distances between rail cars or highway vehicles and loading platforms that do not expose employees to falls greater than 4 feet (1.22 m).

F. *Fall Hazard (Longshoring Operations)*: Whenever employees are working within three feet (.91 m) of the unprotected edge of a work surface that is 8 feet or more (2.44 m) above the adjoining surface and twelve inches (.3 m) or more, horizontally, from the

adjacent surface; or, whenever weather conditions may impair the vision or sound footing of employees working on top of containers.

G. *Fumigant*: A substance or mixture of substances, used to kill pests or prevent infestation, which is a gas or is rapidly or progressively transformed to the gaseous state, although some non-gaseous or particulate matter may remain and be dispersed in the treatment space.

H. *Gangway*: Any ramp-like or stair-like means of access provided to enable personnel to board or leave a vessel, including accommodation ladders, gangplanks and brows.

I. *Hatch Beam or Strongback*: A portable transverse or longitudinal beam placed across a hatchway that acts as a bearer to support the hatch covers.

J. *Intermodal Container*: A reusable cargo container of a rigid construction and rectangular configuration; fitted with devices permitting its ready handling, particularly its transfer from one mode of transport to another; so designed to be readily filled and emptied; intended to contain one or more articles of cargo or bulk commodities for transportation by water and one or more other transport modes. The term includes completely enclosed units, open top units, fractional height units, units incorporating liquid or gas tanks and other variations fitting into the container system. It does not include cylinders, drums, crates, cases, cartons, packages, sacks, unitized loads or any other form of packaging.

K. *Longshoring Operations*: The loading, unloading, moving or handling of cargo, ship's stores, gear, or any other materials, into, in, on, or out of any vessel.

L. *Loose Gear*: Removable and replaceable components of equipment or devices which may be used with or as a part of assembled material handling units for purposes such as making connections, changing line direction and multiplying mechanical advantage. Examples are shackles and snatch blocks.

M. *Marine Terminal*: Wharves, bulkheads, quays, piers, docks and other berthing locations and adjacent storage or adjacent areas and structures associated with the primary movement of cargo or materials from vessel to shore or shore to vessel, including structures which are devoted to receiving, handling, holding, consolidating and loading or delivery of waterborne shipments or passengers, including areas devoted to the maintenance of the terminal or equipment. The term does not include production or manufacturing areas nor does the term include storage facilities directly associated with those productions or manufacturing areas.

N. *Ramps*: Other flat-surface devices for passage between levels and across openings not covered under "dockboards."

O. *Roll-on Roll-off [Ro-Ro] Operations*: Those cargo handling and related operations, such as lashing, that occur on Ro-Ro vessels, which are vessels whose cargo is driven on or off the vessel by way of ramps and moved within the vessel by way of ramps and/or elevators.

P. *Ship's Stores*: Materials that are aboard a vessel for the upkeep, maintenance, safety, operation, or navigation of the vessel, or for the safety or comfort of the vessel's passengers or crew.

Q. *Vessel*: Every description of watercraft or other artificial contrivance used or capable of being used as a means of transportation on water, including special purpose floating structures not primarily designed for, or used as a means of, transportation on water.

R. *Vessel's Cargo Handling Gear*: Gear that is a permanent part of the vessel's equipment and used for the handling of cargo other than bulk liquids. The term covers all stationary or mobile cargo handling appliances used on board ship for suspending, raising or lowering loads or moving them from one position to another while suspended or supported. This includes, but is not limited to, cargo elevators, forklifts, and other powered industrial equipment. It does not include gear used only for handling or holding hoses, handling ship's stores or handling the gangway, or boom conveyor belt systems for the self-unloading of bulk cargo vessels.

XI. Application. This instruction applies OSHA-wide to all interventions, inspections and violation abatement assistance in marine cargo handling industry employment. This instruction also applies to OSHA outreach efforts that include compliance assistance, cooperative programs, training, and education.

Further, this instruction applies to all On-site Consultation Projects. Regardless of whether the worksite is under Federal or State jurisdiction, 21(d) and 23(g) funded State Consultation Projects are required to prioritize and schedule On-site Consultation Services to private-sector employers. On-site Consultation personnel are expected to provide safety and health program assistance, training, education, hazard identification and abatement assistance to employers at marine terminals and longshoring operations conducted aboard vessels on waters which are both U.S. navigable waters, and which are not U.S. navigable waters.

XII. Background. This instruction provides a "One Stop Shopping" document outlining OSHA's responsibilities in the marine cargo handling industry. The marine cargo handling industry is regulated primarily by the "Marine Terminals" Regulations, 29 CFR Part 1917, and the "Safety and Health Regulations for Longshoring," 29 CFR Part 1918. The Marine Terminals Regulations were published in 1983 and some sections were revised in 1997. The Longshoring Regulations were first written in the late 1950s under the authority of the *Longshore and Harbor Workers' Compensation Act*. Those regulations were adopted, unchanged, under the authority of the 6(a) provision of the OSH Act. In 1997, the longshoring Regulations were revised and updated to reflect changes in the marine cargo handling industry such as intermodal containerization and Ro-Ro vessels (62 F.R. 40141-40234, Longshoring and Marine Terminals; Final Rule, July 25, 1997). Some outdated regulations such as grain handling on break-bulk vessels were deleted. However, the Settlement Agreement between the National Grain and Feed Association and OSHA remains in effect and has been incorporated into this directive. Most of the regulations concerning older types of cargo handling gear such as booms and hatch covers and hatch beams were retained. During the public hearings for the Longshoring Regulations, it was pointed out that there were vessels with "older" types of cargo handling trading in the United States. The safe handling of Vertical Tandem Lifts (VTLs), handling two empty containers one on top of the other, was finalized by 73 F.R.75245-75290, Longshoring and Marine Terminals; Vertical Tandem Lifts; Final Rule, December 10, 2008. OSHA's Office of Technological Feasibility

has conducted one of a series of site visits to observe container handling operations. That rule was challenged in litigation by the industry, and the court decision was published on June 17, 2011 [*National Maritime Safety Association v. OSHA,-F.3d-, 2011 WL 2417109 (D.C. Cir. 2011)*]. The Vertical Tandem Lifts Regulation and the result of the court ruling can be found in Appendix F, Q&As 40 and 41. In addition, on June 8, 2011, OSHA published a final rule addressing some technical corrections in the marine cargo handling regulations. The specifics of that regulation can be found in Appendix F, Q&A #2.

This instruction also includes electronic links to all available OSHA products (such as Fatal Facts, QuickCards™, guidance documents, training) as well as links to external marine cargo handling groups (National Maritime Safety Association (NMSA), International Longshoremen's Association (ILA), International Maritime Organization (IMO), International Labor Organization (ILO), etc.).

XIII. Outreach Products. OSHA's web site has been developed to provide up-to-date assistance to employers and employees in all industries, including the maritime industry (i.e., shipyard employment, marine terminals, and longshoring). The web site can be accessed at:

Internet - Accessible to the general public at www.osha.gov.
Intranet - Accessible to OSHA only.

In addition to general industry and construction topics, specific maritime employment and related information can be found at:

A. OSHA Assistance for the Maritime Industry. These pages are part of OSHA's commitment to provide maritime employers and workers with information and assistance for complying with OSHA standards to ensure safe and healthful workplaces. Information on these OSHA web sites includes the following:

1. Maritime Standards and Policy Information. This page provides direct link to OSHA maritime standards and policy documents for obtaining information and guidance regarding these standards.

2. Maritime Topics. This page provides safety, health, and compliance information pertinent to a specific topic. This page also contains links to related agencies and organizations that also can provide information or assistance to maritime employers and employees.

B. Publications. OSHA has developed numerous safety and health publications covering a variety of topics. The publications on this page, selected from OSHA's general publications list, provide information related specifically to marine cargo handling:

1. Maritime Safety and Health Topics: OSHA Publications.

- First Aid in Marine Cargo Handling. OSHA QuickCard™, Publication 3368 (2009).

- Gangway Safety in Marine Cargo Handling. OSHA QuickCard™, Publication 3369 (2009).

- Lifesaving Facilities in Marine Cargo Handling. OSHA QuickCard™, Publication 3367 (2009).

- Marine Terminal Fall Protection for Personnel Platforms. OSHA Fact Sheet (June 2006).

- OSHA Guidance Update on Protecting Employees from Avian Flu (Avian Influenza) Viruses. OSHA Guidance Document, Publication 3323 (October 2006).

- Radio Communication Can Assist Container Gantry Crane Operators in Marine Terminals. OSHA Fact Sheet (June 2007).

- Roll-On Roll-Off (RO-RO) Ship and Dock Safety. OSHA Guidance Document, Publication 3396-06N (July 2010).

- Traffic Safety in Marine Terminals. OSHA Guidance Document, Publication 3337-07 (July 2007).

2. For other publications not specific to the marine cargo handling industry (i.e., general industry, construction, and shipyard employment) or to order publications, refer to the OSHA publications page. Hard copies are also available, along with other publications by dialing (202) 693-1888; Text Telephone (TTY) number is (877) 889-5627.

3. Department of Labor 2011-2016 Strategic Plan outlines DOL's current strategic mission plan, goals, and objectives.

C. OSHA eTools and Electronic Products for Compliance Assistance. eTools are "stand-alone," interactive, Web-based training tools on occupational safety and health topics. They are highly illustrated and utilize graphical menus. Some also use expert system modules, which enable users to answer questions and receive reliable advice on how OSHA regulations apply to their work site.

1. Longshoring and Marine Terminals: Fatal Facts. The Fatal Facts provide summaries, based on actual OSHA case files that were developed to help employers and workers in the marine cargo handling industry recognize and control significant hazards that have been experienced in longshoring and marine terminal operations. This document is comprised of 42 fatal fact scenarios that address all recent sources of fatalities in the marine cargo handling industry. Each fatal fact scenario contains a hazard summary describing the circumstances that may have contributed to each accident and how each specific accident could have been prevented.

2. Training and Outreach. Significant portions of OSHA's resources are directed to training OSHA and industry personnel in safety, health, and compliance procedures. Links are provided to State On-site Consultation Projects that provide on-site assistance.

D. Office of Maritime Enforcement (OME). This office provides support for the maritime industries (i.e., shipyard employment, marine terminals, and longshoring) including: comprehensive program guidelines, policies, procedures, technical assistance, and information dissemination. This involves, but is not limited to, the development of standards interpretations; management and administration of the 29 CFR Part 1919 maritime gear certification program; coordination of the activities of the Agency's Maritime Steering Committee; development and coordination of maritime enforcement programs; and technical expertise in support of DOL's Office of the Solicitor. OME can be reached at (202) 693-2399, and its web page provides contact information and links to related OSHA compliance, outreach, and maritime sites.

E. Inspection Data. OSHA inspection data is accessible through OSHA's web page. This link will take the user directly to the "Statistics and Data" page, which allows the user to conduct searches by establishment, Standard Identification Classification (SIC) code, North American Industry Classification System (NAICS) code, OSHA inspection number, accidents, and frequently cited standards. The page also contains links to the Bureau of Labor Statistics (BLS) for inspection data and statistics. The NAICS code that corresponds to the marine cargo handling industry is 488320 (SIC code 4491).

NOTE: A complete list of NAICS codes is available on the U.S. Census Bureau web site.

F. On-site Consultation Program. 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. On-site Consultation Program 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 systems.

G. Cooperative Programs. OSHA offers the following cooperative programs under which businesses, labor groups, and other organizations can work cooperatively with the Agency to help prevent fatalities, injuries and illnesses in the workplace:

1. Alliance Program. Through the Alliance Program, OSHA works with groups committed to worker safety and health to prevent workplace fatalities, injuries, and illnesses. These groups include unions, consulates, trade or professional organizations, businesses, faith- and community-based organizations, and educational institutions. OSHA and the groups work together to develop compliance assistance tools and resources, share information with workers and employers, and educate workers and employers about their rights and responsibilities. Alliance Program participants do not receive exemptions from OSHA programmed inspections.

2. OSHA Strategic Partnership Program (OSPP). The OSPP provides the opportunity for OSHA to partner with employers, workers, professional or trade associations, labor organizations, and/or other interested stakeholders. OSHA Strategic Partnerships (OSP) are formalized through unique agreements designed to encourage, assist, and recognize partner efforts to eliminate serious hazards and achieve model workplace safety and health practices. Each OSHA Strategic Partnership establishes specific goals, strategies, and performance measures to improve worker safety and

health. OSP models include those focused on improving safety and health in major corporations/government agencies, at large construction projects, and for entire industries. The OSPP is available to private sector industries and government agencies in locales where OSHA has jurisdiction.

3. Voluntary Protection Programs (VPP). The VPP recognizes employers and workers in private industry and federal agencies who have implemented effective safety and health management systems and maintain injury and illness rates below national Bureau of Labor Statistics averages for their respective industries. In VPP, management, labor, and OSHA work cooperatively and proactively to prevent fatalities, injuries, and illnesses through a system focused on: hazard prevention and control; worksite analysis; training; and management commitment and worker involvement. To participate, employers must submit an application to OSHA and undergo a rigorous on-site evaluation by a team of safety and health professionals. Union support is required for applicants represented by a bargaining unit. VPP participants are re-evaluated every three to five years to remain in the programs. VPP participants are exempt from OSHA programmed inspections while they maintain their VPP status.

   - CSP 03-01-003, Voluntary Protection Programs (VPP): Policies and Procedures Manual, April 18, 2008.

4. OSHA Challenge Program. OSHA Challenge provides interested employers and workers the opportunity to gain assistance in improving their safety and health management systems. Challenge Administrators experienced in safety and health guide Challenge Participants through a three-stage process to implement an effective system to prevent fatalities, injuries and illnesses. An on-line tool is provided which breaks down the actions, documentation, and results desired. Graduates of OSHA Challenge receive recognition from OSHA as they incrementally improve their safety and health management systems. OSHA Challenge is available to employers in the private and public sectors under OSHA's federal jurisdiction.

5. Safety and Health Achievement Recognition Program (SHARP). Employers that have a full On-site Consultation visit and meet other requirements may be recognized under SHARP for their exemplary safety and health management systems. Worksites that receive SHARP recognition are exempt from programmed inspections during the period that the SHARP certification is valid.

H. Marine Cargo Handling Industry Resources External to OSHA. While OSHA considers the entities below to be valuable resources for information concerning safe and healthful workplace practices in the marine cargo handling industry, employers accessing such information are not absolved of their obligations to comply with the *Occupational Safety and Health* (OSH) *Act* and standards promulgated pursuant to the OSH Act. Applying the recommendations or practices offered by these entities does not necessarily constitute compliance with the OSH Act and OSHA standards. In addition, OSHA does not control the publication of information on the web sites listed in this paragraph and cannot vouch for the accuracy, reliability, or timeliness of every piece of information contained in these web sites.

1. International Maritime Organization (IMO). The IMO is a specialized agency of the United Nations which is responsible for measures to improve the safety and security of international shipping and to prevent marine pollution from ships. The IMO has information concerning marine cargo handling that can be accessed through the IMO web site.

2. International Labour Organization (ILO). The ILO is the international organization responsible for drawing up and overseeing international labour standards. It is the only 'tripartite' United Nations agency that brings together representatives of governments, employers and workers to jointly shape policies and programs promoting decent work for all. This unique arrangement gives the ILO an edge in incorporating "real world" knowledge about employment and work.

3. International Cargo Handling and Coordination Association (ICHCA). The ICHCA is a membership organization dedicated to the promotion of safety and efficiency in the handling and movement of goods by all modes and during all phases of both national and international transport chains. ICHCA has 900 members in over 80 countries, and those members consist of ports, terminals, port authorities, container depots, academics and cargo specialists. Numerous "best practice" publications concerning safe cargo handling are available, for a fee, through the ICHCA web site.

4. International Longshoremen's Association (ILA). The ILA, AFL-CIO, is the largest union of maritime workers in North America, representing upwards of 65,000 longshoremen on the Atlantic and Gulf Coasts, Great Lakes, major U.S. rivers, Puerto Rico and Eastern Canada. ILA's international headquarters is at 17 Battery Place in New York City, New York. More information can be obtained at the ILA web site.

5. International Longshore and Warehouse Union (ILWU). The ILWU is the largest union of maritime workers on the West Coast of the United States, including Alaska and Hawaii. More information can be obtained at the ILWU web site.

6. American Association of Port Authorities (AAPA). The AAPA, an alliance of leading ports in the Western Hemisphere, protects and advances the common interests of its diverse members as they connect their communities with the global transportation system. More information can be obtained at the AAPA web site.

7. Crane Certification Association of America (CCAA). The purpose of the CCAA is to promote crane safety, improve the crane certification profession, and address the subject of crane safety in governmental forums. More information can be obtained at the CCAA web site.

8. National Maritime Safety Association (NMSA). NMSA represents the marine cargo handling industry in the United States in safety and health matters arising under various statutes, including the *Occupational Safety and Health Act*. The following associations are members of NMSA and can be accessed at the NMSA web site.

   - Boston Shipping Association (BSA)
   - British Columbia Maritime Employers Association (BCMEA)
   - Georgia Stevedore Association (GSA)
   - Hampton Roads Shipping Association (HRSA)

- Maritime Employers Association (Montreal)
- Midgulf Association of Stevedores (MAS)
- Mobile Steamship Association (MSA)
- New York Shipping Association (NYSA)
- Pacific Maritime Association (PMA)
- Ports of the Delaware River Marine Trade Association (PMTA)
- South Carolina Stevedores Association (SCSA)
- Southeast Florida Employers Port Association (SEFEPA)
- Steamship Trade Association of Baltimore (STAB)
- United States Maritime Alliance (USMX)
- West Gulf Maritime Association (WGMA)

XIV. Training. Training consists of both internal training for OSHA consultation and enforcement staff, and external training for marine cargo handling industry employers and employees.

A. OSHA Directorate of Training and Education (DTE). The directorate develops, directs, oversees, manages and ensures implementation of OSHA's national training and education policies and procedures.

1. OSHA Training Institute (OTI). The OTI provides training and education in occupational safety and health for federal and State compliance officers, State consultants, other federal agency personnel, and the private sector.

2. OSHA Training Institute Education Centers. The OTI Education Centers offer the most frequently requested OSHA Training Institute courses for the private sector and other federal agency personnel at locations throughout the United States.

3. Resource Center Loan Program. The Resource Center offers occupational safety and health training videos for loan to OSHA employees, OSHA grantees, Consultation Programs, State Plan States, Voluntary Protection Program Sites, OTI Education Centers, Federal Agency Occupational Safety and Health Trainers, and OSHA Outreach Trainers.

4. Susan Harwood Training Grant Program. Under this program, OSHA awards grants to nonprofit organizations to develop training and educational programs, reach out to appropriate workers and employers, and provide these programs to these workers and employers.

5. Safety and Health Training Resources. The DTE Library contains training and reference materials developed by DTE as well as links to other related sites.

6. OSHA Outreach Training Program. The OSHA Outreach Training Program for the maritime industry provides training for workers and employers on the recognition, avoidance, abatement, and prevention of safety and health hazards in workplaces in the maritime industry. The program also provides information regarding workers' rights, employer responsibilities, and how to file a complaint. This is a voluntary program and does not meet training requirements for any OSHA standards.

NOTE: Through this program, OTI provides five courses relating to marine

terminals and the longshoring industry: (1) a one-week course #2060, "Longshoring and Marine Terminal Processes and Standards" for both marine terminal and longshoring workers, (2) a 10-hour course #7617 for entry-level workers in marine terminals, (3) a 10-hour course #7618 for entry-level personnel working in longshoring operations, (4) a 30-hour course #7637 for workers tasked with safety responsibilities in marine terminals, and (5) a 30-hour course #7638 for workers tasked with safety responsibilities in longshoring operations. The course descriptions, schedules and locations can be accessed via www.osha.gov/dte/edcenters/current_list.html or (click "A to Z Index," click "Maritime Safety," click "OSHA Maritime Outreach Training Program," then click "Find an OTI Education Center").

XV. Enforcement Programs. OSHA compliance officers may enter places of marine cargo handling industry employment to conduct programmed inspections or to investigate complaints, referrals, catastrophes (i.e., hospitalization of three or more employees), and fatal incidents. General inspection criteria and contact information can be found in OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM)*, April 22, 2011.

A. Marine Cargo Handling Industry. This industry is made up of longshoring activities (i.e., cargo handing aboard vessels) and activities within marine terminals (i.e., cargo handling ashore). Due to the unique differences among these activities and differing port locations, sizes and number of employers (i.e., stevedores), several programmed inspection scheduling methods are necessary. Consequently, marine cargo handling industry inspections as outlined in the FOM may be scheduled as:

- National Emphasis Programs (NEPs)
- Special Emphasis Programs (SEPs)
- Local Emphasis Programs (LEPs)
- Severe Violator Enforcement Program (SVEP)
- Site-Specific Targeting (SST)
- Lists generated by the local Area Offices of either port areas or employers

NOTE: See FOM, Chapter 10 for specific enforcement guidance and procedures for marine terminals and longshoring inspections.

B. Maritime Standard Alleged Violation Elements (SAVEs). In a joint effort by the Directorate of Enforcement Programs (DEP)/Office of Maritime Enforcement (OME) and selected OSHA field offices, Maritime SAVEs have been developed to provide 100 percent coverage of all enforceable standards for the maritime industries: shipyard employment, marine terminals and longshoring. The Maritime SAVEs include their respective Alleged Violation Descriptions (AVDs) which have been specifically tailored for maritime applications. OME is responsible for maintaining the Maritime SAVEs. Maritime SAVEs are available for CSHOs by accessing the OSHA Intranet website.

C. Violation Abatement Assistance Program. OSHA is committed to reducing workplace injuries and illnesses in longshoring and marine terminals. To help meet this goal, marine cargo handling industry employers are encouraged to seek advice and off-site consultation. The employer should make these requests by writing, calling or visiting the nearest OSHA Office.

XVI. Coordination. This instruction will be coordinated by the Directorate of Enforcement Programs (DEP). Questions and comments should be directed to the Office of Maritime Enforcement (OME).

XVII. Program Evaluation. During interventions and inspections, area offices will continue to collect data and information such as OSHA 300 Log entries and calculate reductions in Days Away, Restricted, or Transferred (DART) rates to measure the effectiveness of OSHA's initiatives to improve marine cargo handling industry occupational safety and health. Area offices will forward this information to their respective regional offices. At the end of each fiscal year, after summarizing the data and information, the regional offices will forward the summary to the National Office, Directorate of Enforcement Programs (DEP). DEP will serve as a coordinating role, collecting information from regional offices on best practices in the marine cargo handling industry and, after review and evaluation, disseminate the information to regional offices and the OSHA Directorate of Training and Education (DTE).

APPENDIX A: 29 CFR PARTS 1917 AND 1918
PERSONAL PROTECTIVE EQUIPMENT (PPE)
INCLUDING PPE PAYMENT

I. 29 CFR 1917 and 1918 Personal Protective Equipment. This appendix addresses standards related to personal protective equipment for the marine cargo handling industries. Inspections of workplaces are subject to the revised PPE standards and shall be conducted by CSHOs in accordance with OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM)*, April 22, 2011.

On November 15, 2007, OSHA issued a final rule for *Employer Payment for Personal Protective Equipment* (72 F.R. 64341-64430) that provides identical rules to all industries regarding payment for PPE, including longshoring and marine terminal regulations.

On September 9, 2009, OSHA issued a final rule (74 F.R. 46350-46361) to revise the PPE sections of its general industry, shipyard employment, longshoring and marine terminals, and construction standards regarding requirements for eye- and face-protective devices, head protection and foot protection. This revision updated the references in OSHA's regulations to recognize more recent editions of the applicable national consensus standards and requires safety equipment to comply with the applicable PPE design provisions.

A. **1917.91 and 1918.101 Eye and face protection**. Where such protection is necessary, CSHOs shall verify whether employers provide their affected employees with eye and face protection as required by 29 CFR 1917.91 and 1918.101. The employer must ensure that each affected employee uses protective eye and face wear that fits properly and protects against specific workplace hazards. In addition, the employer should ensure that the protective eye and face wear is reasonably comfortable, provides unrestricted vision and movement, is durable and clean, and provides unrestricted functioning of any other required PPE. For additional information on eye and face protection, see OSHA Publication 3151-12R-2003, *Personal Protective Equipment*.

1. The standard requires that each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards (1917.91(a)(1) and 1918.101(a)(1)).

2. The standard requires that each affected employee who wears prescription lenses while engaged in operations that involve eye hazards must wear eye protection that incorporates the prescription in its design, or protection that can be worn over the prescription lenses without disturbing the proper position of either the PPE or the prescription lenses (1917.91(a)(2) and 1918.101(a)(2)).

3. When employees use equipment with filter lenses, the lenses must have a shade number appropriate for the work being performed for protection from injurious light radiation (1917.152(f)(4)(ii) and 1917.152(h)). See 1917.152(h)(3), Table G-1, *Filter Lenses for Protection Against Radiant Energy,* which lists the necessary shade numbers for various operations.

   NOTE: When goggle and helmet lenses are worn together, the shade value of the goggle and helmet lenses can be summed to satisfy the shade requirements of 1917.152(h)(3), Table G-1.

4. Protective eye and face devices must comply with any of the following consensus standards (1917.91(a)(1)(i) and 1918.101(a)(1)(i)).

   a. ANSI Z87.1-2003, *American National Standard Practice for Occupational and Educational Eye and Face Protection* (1917.91(a)(1)(i)(A) and 1918.101(a)(1)(i)(A)); or

   b. ANSI Z87.1-1989 (R-1998), *American National Standard Practice for Occupational and Educational Eye and Face Protection* (1917.91(a)(1)(i)(B) and 1918.101(a)(1)(i)(B)); or

   c. ANSI Z87.1-1989, *American National Standard Practice for Occupational and Educational Eye and Face Protection* (1917.91(a)(1)(i)(C) and 1918.101(a)(1)(i)(C)).

   NOTE: Eye and face protective devices that the employer demonstrates are at least as effective as eye and face protection devices that are constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section (1917.91(a)(1)(ii) and 1918.101(a)(1)(ii)).

5. The CSHO should use OSHA Publication 3151-12R-2003, *Personal Protective Equipment,* as a reference aid. The following are some examples of eye protection:

   - **Safety spectacles or glasses** have safety frames constructed of metal or plastic and impact-resistant lenses. Permanent or detachable side protection is available on some models.

     NOTE: Side protection is required when there is a hazard from flying objects.

   - **Detachable side protectors** (e.g., clip-on or slide-on side shields) may be permitted as long as they meet the criteria specified in ANSI Z87.1-1989.

     NOTE: Detachable side protectors meeting the criteria of ANSI Z87.1-1989 (R-1998) and ANSI Z87.1-2003 also are acceptable.

   - **Goggles** are tight-fitting eye protection that completely covers the eyes, eye sockets and the facial area immediately surrounding the eyes. They provide protection from impact, dust and splashes. Some goggles will fit over corrective lenses.

   - **Face shields** are transparent sheets of plastic extending from the eyebrows to below the chin and across the entire width of the employee's head. Some are polarized for glare protection. Screen-type face shields are used around molten metal operations. Face shields protect eyes from small particles and potential splashes or sprays of hazardous liquids but will not provide adequate protection against impact hazards.

     NOTE: Face shields shall be used only in conjunction with spectacles or goggles, providing a higher level of protection to the employee's face and eyes; ANSI Z87.1-2003, *American National Standard Practice for Occupational and Educational Eye and Face Protection.*

- **Welding shields** are constructed of vulcanized fiber or fiberglass and can be fitted with a filtered lens. Welding shields protect eyes from burns caused by infrared or intense radiant light; they also protect both the eyes and face from flying sparks, metal spatter, and slag chips produced during welding, brazing, soldering, and cutting operations. OSHA requires filter lenses to have a shade number appropriate to protect against harmful light radiation. For additional information on filtered lenses, see 1917.152(h)(3), Table G-1.

B. **1910.134 Respiratory protection**. Determine compliance using 29 CFR 1910.134 requirements. (See 29 CFR 1917.92 and 29 CFR 1918.102 which reference the use of 1910.134)

1. The 1910.134 standard applies to respirator use where respirators are being worn to protect employees from exposure to air contaminants above an exposure limit or are otherwise required to be worn by the employee to protect their health. The standard requires employers to have a written respiratory protection program that includes procedures for: respirator selection, use, fit testing, cleaning, maintenance and repair; training in respirator use and respiratory hazards; medical evaluations of employees required to use respirators; procedures for ensuring adequate breathing air; and for evaluating the respiratory protection program's effectiveness.

2. Where respirators are voluntarily worn by employees for comfort or other reasons, the employer must provide such employees with the information contained in Appendix D of 1910.134 ("Information for Employees Using Respirators When Not Required Under the Standard"). In addition, the employer must establish and implement those parts of a written respiratory protection program necessary to ensure that the employee using a respirator voluntarily is medically able to use that respirator, and that it is cleaned, stored, and maintained so as not to present a health hazard to the user.

   NOTE: Employers need not include in the written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).

   NOTE: On January 8, 1998, OSHA published a final standard (63 F.R. 1152) on respiratory protection, 1910.134, which covers general industry, construction, shipyard, longshoring, and marine terminal workplaces. On June 8, 2011, OSHA published a Standards Improvement Project (SIP-III) final rule (76 F.R. 33590-33612) that included changes to 1910.134(i)(4)(i), 1910.134(i)(9), 1910.134(o), and Appendix C to 1910.134.

3. Engineering and work practice controls are the primary means the employer must use to reduce employee exposure to hazardous substances. The requirement for employers to provide engineering and work practice controls is found in several substance-specific standards and should be cited if an overexposure is found (e.g., the asbestos standard at 1910.1001(f)). For substances listed in Table Z of 1910.1000, 1910.1000(e) would be cited. These violations should normally be grouped with the overexposure.

   If these controls are not feasible or when they are being implemented they do not reduce air contaminant levels to the extent necessary to protect the health of the employee, then appropriate respirators must be provided and properly used. The requirement for employers to provide respirators is found in many of the substance-specific Part 1910

standards (e.g., the lead standard at 1910.1025(e) and (f)). CSHOs should cite the respirator provisions of substance-specific standards when those standards apply. If the substance is listed only in Table Z, the violation for not providing a respirator should be cited under 1910.134(a)(2).

Overexposures would normally be grouped with an appropriate engineering control and/or respirator violation.

4. The employer must provide the right type of respirator for the substance and level of exposure involved. Respiratory protection equipment includes: filtering face pieces (dust masks) and other air-purifying respirators; atmosphere-supplying respirators, including supplied-air respirators and self-contained breathing apparatus; and escape-only respirators. Issue citations under 1910.134(d) for not providing an appropriate respirator, unless a substance-specific standard applies. For complete enforcement guidance on respiratory protection, see CPL 02-00-120, *Inspection Procedures for the Respiratory Protection Program* and CPL 02-00-150, *Field Operations Manual.*

C. **1917.93 and 1918.103 Head protection**. CSHOs shall determine compliance with head protection requirements using 29 CFR 1917.93 and 1918.103. Employers must require employees to wear a protective helmet or hard hat when working in areas where there is potential for injury to the head from falling objects (1917.93(a) and 1918.103(a)). In general, hard hats or protective helmets should resist penetration by objects, absorb the shock of a blow, be water-resistant, and have slow-burning properties. Manufacturers' instructions explaining proper adjustment and replacement of the suspension and headband should be followed. Employers should replace protective helmets and their suspension systems when damaged or deteriorated, and at intervals specified by the manufacturer. Head protection devices that the employer demonstrates are at least as effective as head protection devices that are constructed in accordance with one of the below consensus standards will be deemed to be in compliance with the requirements of this section (1917.93(b)(2) and 1918.103(b)(2)). For additional information on head protection, see OSHA Publication 3151-12R-2003, *Personal Protective Equipment* and ANSI Z89.1-2003, *American National Standard for Industrial Head Protection.*

1. Head protection must comply with any of the following consensus standards (1917.93(b)(1) and 1918.103(b)(1)):

   a. ANSI Z89.1-2003, *American National Standard for Industrial Head Protection* (1917.93(b)(1)(i) and 1918.103(b)(1)(i)); or

   b. ANSI Z89.1-1997, *American National Standard for Industrial Head Protection* (1917.93(b)(1)(ii) and 1918.103(b)(1)(ii)); or

   c. ANSI Z89.1-1986, *American National Standard for Personnel Protection – Protective Headwear for Industrial Workers – Requirements* (1917.93(b)(1)(iii) and 1918.103(b)(1)(iii)).

2. ANSI Z89.1-1986 contains the following types and classes.

   a. Type I. Type I helmets have a full brim.

b. Type II. Type II helmets are brimless with a peak extending forward from the crown.

c. Class A. Class A helmets are intended to reduce the force of impact of falling objects and to reduce the danger of contact with exposed low-voltage conductors. Representative sample shells are proof-tested at 2,200 volts (phase to ground).

d. Class B. Class B helmets are intended to reduce the force of impact of falling objects and to reduce the danger of contact with exposed high-voltage conductors. Representative sample shells are proof-tested at 20,000 volts (phase to ground).

e. Class C. Class C helmets are intended to reduce the force of impact of falling objects. This class offers no electrical protection.

NOTE: Proof-test voltages for Class A and B helmets are not intended to be an indication of the voltage at which the headgear protects the wearer, but only the level at which they are tested.

3. ANSI Z89.1-1997 classifies protective helmets according to the specific impact (types) and electrical performance (classes) requirements they are designed to meet.

a. Type I. Helmets intended to reduce the force of impact resulting from a blow only to the top of the head.

b. Type II. Helmets intended to reduce the force of impact resulting from a blow which may be received off center or to the top of the head.

NOTE: ANSI Z89.1-1997 eliminated the old Type I and Type II (full brim vs. no encircling brim) design designations. In the 1997 standard, Type I is used to designate vertical impact protection and Type II is used to designate vertical and side impact protection.

c. Class G (General). Class G helmets are intended to reduce the danger of contact exposure to low-voltage conductors. Test samples are proof-tested at 2,200 volts (phase to ground).

d. Class E (Electrical). Class E helmets are intended to reduce the danger of exposure to high-voltage conductors. Test samples are proof-tested at 20,000 volts (phase to ground).

e. Class C (Conductive). Class C helmets are not intended to provide protection against contact with electrical conductors.

NOTE: ANSI Z89.1-1986 specified the helmet classes as A, B, and C; ANSI Z89.1-1997 changed these helmet classes to G, E, and C.

NOTE: Proof-test voltages for Class G and E helmets are not intended to be an indication of the voltage at which the headgear protects the wearer, but only the level at which they are tested.

4. ANSI Z89.1-2003 eliminated redundancy in the previous test methods (ANSI Z89.1-1997) and recognized state-of-the-art materials performance and technology by removing some physical requirements for helmet components that did not provide added user value. The helmet types and classes are the same as noted above for ANSI Z89.1-1997.

D. **1917.94 and 1918.104 Foot protection**. CSHOs shall determine compliance by employers with foot protection requirements using 29 CFR 1917.94 and 1918.104. Employers must ensure that employees wear protective footwear when working in areas where there is a danger of foot injuries from falling or rolling objects, or objects piercing the sole (1917.94(a) and 1918.104(a)).

1. Protective footwear must comply with any of the following consensus standards (1917.94(b)(1) and 1918.104(b)(1)):

   a. ASTM F-2412-2005, *Standard Test Methods for Foot Protection*, and ASTM F-2413-2005, *Standard Specification for Performance Requirements for Protective Footwear* (1917.94(b)(1)(i) and 1918.104(b)(1)(i)); or

   b. ANSI Z41-1999, *American National Standard for Personal Protection – Protective Footwear* (1917.94(b)(1)(ii) and 1918.104(b)(1)(ii)); or

   c. ANSI Z41-1991, *American National Standard for Personal Protection – Protective Footwear* (1917.94(b)(1)(iii) and 1918.104(b)(1)(iii)).

   NOTE: Protective footwear that the employer demonstrates is at least as effective as protective footwear that is constructed in accordance with one of the above consensus standards will be deemed to be in compliance with the requirements of this section (1917.94(b)(2) and 1918.104(b)(2)). The manufacturers' instructions and the distributors' literature are not in themselves evidence of effectiveness.

   For additional information on foot protection, see OSHA Publication 3151-12R-2003, *Personal Protection Equipment*. The following are some examples of foot (or lower leg) protection:

   - **Metatarsal guards** are designed to protect the top of the foot from the toes to the ankle over the instep of the foot. This protection is required when there is a potential for injury to that part of the foot from impact or compression hazards. Examples include handling heavy pipes or similar activities where loads could drop on or roll over an employee's foot. These guards are made of aluminum, steel, composites, fiber or plastic, and may be attached to the outside of shoes.

   - **Toe guards** fit over the toes of regular shoes to protect the toes from impact and compression hazards. They may be made of steel, aluminum, or plastic.

     NOTE: ANSI Z41-1991, *American National Standard for Personal Protection – Protective Footwear*, which is incorporated by reference, requires at paragraph 1.4 that the toe box be incorporated into the footwear during construction and shall be an integral part of the footwear.

- **Combination foot and shin guards** protect the lower legs and feet, and may be used in combination with toe guards when greater protection is needed.

- **Safety shoes or boots** provide protection against impact (impact-resistant toes), compression and puncture hazards, and have heat-resistant soles that protect against hot work surfaces.

- **Electrically conductive shoes** provide protection against the buildup of static electricity. Employees working in actual or potentially explosive and hazardous locations must wear conductive shoes to reduce the risk of static electricity buildup on the body that could produce a spark and cause an explosion or fire. Foot powder should not be used with protective conductive footwear because foot powder provides insulation and reduces the conductive ability of the shoes. Silk, wool, and nylon socks can produce static electricity and should not be worn with conductive footwear. Conductive shoes must be removed when the task requiring their use is completed.

  NOTE: Employees exposed to electrical hazards must never wear conductive shoes.

- **Electrical hazard, safety-toe shoes or boots** are intended to provide protection against open circuits of 600 volts or less under dry conditions. This footwear is designed to reduce hazards due to contact with electrically energized parts and is only intended to provide secondary electrical hazard protection on surfaces that are substantially insulated. They also provide toe protection.

  NOTE: Electrical hazard footwear is not meant for use in explosive or hazardous locations where conductive footwear is required. Nonconductive footwear must not be used in an explosive or hazardous location.

  NOTE: The insulating protection of electrical hazard shoes may be compromised if: the shoes become wet, the soles are worn through, metal particles become embedded in the sole or heel, or employees touch conductive items that are grounded. When electric shock protection is necessary, employees must use primary electrical protection, such as rubber insulating gloves or blankets, in addition to electrical hazard footwear.

E. **1917.95 and 1918.105 Other protective measures**. CSHOs shall determine compliance by employers with protective clothing requirements using 29 CFR 1917.95 and 1918.105. Employers shall provide and ensure the proper use of any additional personal protective equipment that may be necessary to protect other parts of an employee's body (for example, hand and body protection). Each affected employee who faces possible bodily injury of any kind that cannot be completely eliminated through engineering, work practice or administrative controls must wear appropriate body protection while performing their jobs. For additional information on hand and body protection, see OSHA Publication 3151-12R-2003, *Personal Protective Equipment*.

1. 1917.95(a)(1) and 1918.105(a)(1) requires employers to provide any additional special personal protective equipment that may be necessary to protect employees from recognized hazards in the workplace. Before the reissuance of personal protective equipment the employer shall ensure that it is clean and disinfected (1917.95(a)(2) and 1918.105(a)(2)).

The following are some types of materials used in hand and body protection which an employer may provide to comply with 1917.95 and 1918.105:

- **Paper-like fiber** is used for disposable suits or coveralls (such as Tyvek® coveralls) to provide protection against dust and splashes (when coated with a substance that renders the garment impervious to the material that splashes on it).

- **Treated wool and cotton** adapts well to changing temperatures, is comfortable, fire-resistant and protects against dust, abrasions and rough and irritating surfaces.

- **Duck** is a closely woven cotton fabric that provides protection against cuts and bruises when handling heavy, sharp or rough materials.

- **Leather aprons and chafing gear** are used to protect against dry heat and flames.

- **Rubber, rubberized fabrics, neoprene and plastics** provide protection against certain chemicals and physical hazards. When chemical or physical hazards are present, check with the clothing manufacturer to ensure that the material selected will provide protection against the specific hazard.

- **Leather gloves** protect against sparks, moderate heat, impact, chips and rough objects.

- **Aluminized gloves** provide reflective and insulating protection against heat and require an insert made of synthetic materials to protect against heat and cold.

- **Aramid fiber gloves** wear well and resist heat and cold, abrasion, cuts and slashes, and protect against flying fragments.

- **Synthetic gloves** of various materials offer protection against heat and cold, are cut- and abrasive-resistant, and may withstand some diluted acids. These materials do not stand up against alkalis and solvents.

- **Fabric gloves** protect against dirt, slivers, chafing and abrasions. They do not provide sufficient protection for use with rough, sharp, or heavy materials. Adding a plastic coating will strengthen some fabric gloves.

- **Coated fabric gloves** are normally made from cotton flannel with napping on one side. Fabric gloves with plastic coating on the unnapped side are general-purpose hand protection with some slip-resistant qualities, and may offer some protection against certain levels of chemical exposure. Thus, these gloves are used for tasks such as handling bricks, wire, and chemical laboratory containers. Employers must select gloves that will protect employees from chemical hazards.

- **Chemical-resistant gloves** protect the hands from skin absorption of harmful substances. They may be made of rubber, neoprene, polyvinyl alcohol, butyl rubber, etc. The gloves protect the hands against materials such as, but not limited to, corrosives, oils and chlorinated solvents.

- **Butyl gloves** are made of synthetic rubber and protect against a wide variety of chemicals, such as peroxide, rocket fuels, highly corrosive acids (e.g., nitric acid, sulfuric acid, hydrofluoric acid, and red-fuming nitric acid), strong bases, alcohols, aldehydes, ketones, esters, and nitro compounds. Butyl gloves also resist oxidation, ozone corrosion, and abrasion and remain flexible at low temperatures. Butyl rubber does not perform well with aliphatic and aromatic hydrocarbons and halogenated solvents.

- **Natural rubber (latex) gloves** are worn for general-purpose use. They feature outstanding tensile strength, elasticity, and temperature resistance. In addition to resisting abrasions caused by grinding and polishing, these gloves protect employees' hands from most water solutions of acids, alkalis, salts, and ketones. Latex gloves have caused allergic reactions in some individuals and may not be appropriate for all employees. Hypoallergenic gloves, glove liners, and powderless gloves are possible alternatives for employees who are allergic to latex gloves.

- **Neoprene gloves** are made of synthetic rubber and offer good pliability, finger dexterity, high density and tear resistance. They protect against hydraulic fluids, gasoline, alcohols, organic acids and alkalis. They generally have chemical- and wear-resistance properties superior to those made of natural rubber (latex).

- **Nitrile gloves** are made of a copolymer and provide protection from solvents such as trichloroethylene and perchloroethylene. Although intended for jobs requiring dexterity and sensitivity, nitrile gloves stand up to heavy use even after prolonged exposure to substances that cause other gloves to deteriorate. They offer protection when working with oils, greases, acids, caustics, and alcohols, but are generally not recommended for use with strong oxidizing agents, aromatic solvents, ketones, and acetates.

NOTE: Refer to OSHA's personal protective equipment webpage for additional information.

NOTE: Most chemical glove manufacturers provide recommendations based on the chemicals used and even the type of protection needed (such as immersion versus splash). Many of these recommendations are available from the manufacturers online.

2. 1917.95(b)(1) and 1918.105(b)(1) requires the employer to provide and ensure that each employee wears a personal flotation device (PFD) when engaged in a work activity that exposes them to a fall or being pulled into the water.

3. 1917.95(b)(2) and 1918.105(b)(2) requires the employer to provide and ensure that each affected employee wears an approved U. S. Coast Guard PFD pursuant to 46 CFR Part 160 (Type I, II, III, or V PFD). The PFD must be marked indicating its use as a work vest, commercial use, or for use on vessels.

4. 1917.95(b)(3) and 1918.105(b)(3) requires the employer to remove damaged PFDs from service if the buoyancy or fastening capability are affected.

5. 1917.95(c) requires the employer to provide an emergency facility in good working order for employees working with hazardous substances. The facility may provide emergency bathing, eyewash stations, or other facility services.

F. **1910.95 Hearing protection (Occupational Noise Exposure).**

1. The 1910.95 provisions for hearing protection apply to longshoring and marine terminal activities. CSHOs shall determine whether employers require each affected employee to wear hearing protection when permissible noise exposure levels are exceeded for a specified time (duration per day, in hours) and feasible administrative or engineering controls fail to reduce the noise level. Employee exposure to excessive noise is determined by a number of factors, including the noise level(s) as measured in decibels (dB), the duration of exposure to noise, whether employees move between work areas with different noise levels, and whether noise is generated from one or multiple sources. The *Permissible Noise Exposures* table below is from the OSHA noise standard; Table G-16 at 1910.95(b)(2). In general, the louder the noise (sound level), the shorter the period during which employees may be exposed without requiring hearing protection.

Permissible Noise Exposures

Duration per day, in hours	Sound level dBA in slow response
8	90
6	92
4	95
3	97
2	100
1½	102
1	105
½	110
¼ or less	115

Employers should evaluate their worksite to determine whether excessive noise levels exist. When noise monitoring results indicate TWA exposures at or above level of 85 dBA, employers are required to establish a hearing conservation program.

As part of a continuing, effective hearing conservation program (1910.95(c)), employers must make hearing protection available to all employees exposed to an 8-hour time-weighted average of 85 decibels or greater measured on the A scale (slow response) at no cost to the employees.

2. The provisions of 1910.95(c) require employers to ensure that hearing protection is provided to, and worn by, all employees who are exposed to an 8-hour time-weighted average of 85 decibels or greater, or who are required by 1910.95(b)(1) to wear personal protective equipment, and by any employees who are exposed to an 8-hour time-weighted average of 85 decibels or greater, and who:

   a. have not yet had a baseline audiogram established pursuant to 1910.95(g)(5)(ii) as required by 1910.95(i)(2)(ii)(A); or

b. have experienced a standard threshold shift (1910.95(i)(2)(ii)(B)).

3. Hearing protection equipment must be replaced as necessary (1910.95(i)(1)), as all types of PPE have a limited life span. For example, the foam seal on earmuffs, flanges on rubber earplugs, and foam earplugs all lose their elasticity over time. As hearing protectors wear out, their attenuation properties are diminished. Also, the headband on earmuffs can relax so that the earmuffs no longer provide a snug fit. Although some foam plugs can be washed several times in mild soap and water, they should usually be changed every day or two, especially in dusty or oily environments. They should not be removed with dirty hands if they are expected to be reused, as reinsertion of dirty plugs may cause ear infections.

4. Employees must be given the opportunity to select hearing protection from a variety of suitable equipment provided by the employer (1910.95(i)(3)).

   NOTE: For example, employers must give employees a choice between at least one type of earplug and one type of earmuff since individuals may be more comfortable in one type of protection than in the other.

5. The employer must provide training in the use and care of all hearing protection provided to employees (1910.95(i)(4)).

6. The employer must ensure proper initial fitting and supervise the correct use of all hearing protection (1910.95(i)(5)).

7. Hearing protector attenuation. CSHOs shall determine whether the employer has evaluated hearing protector attenuation for the specific noise environments in which the protector will be used. The employer shall use one of the evaluation methods described in 29 CFR 1910.95 Mandatory Appendix B: *Methods for Estimating the Adequacy of Hearing Protector Attenuation* (1910.95(j)(1)). The *OSHA eTool for Noise and Hearing Conservation*, provides useful information related to noise potential health effects, noise standards limits, evaluation of noise exposures, and requirements for an effective hearing conservation program including:

   - Monitoring program;
   - Audiometric testing program;
   - Hearing protection devices (HPDs);
   - Employee training and education; and
   - Recordkeeping.

8. Hearing protectors must attenuate employee exposure at least to an 8-hour time-weighted average of 90 decibels as required by paragraph (b) of the standard (1910.95(j)(2)).

9. For employees who have experienced a standard threshold shift, hearing protectors must attenuate employee exposure to an 8-hour time-weighted average of 85 decibels or below

(1910.95(j)(3)).

10. The adequacy of hearing protector attenuation shall be re-evaluated whenever employee noise exposures increase to the extent that the hearing protectors provided may no longer provide adequate attenuation. Employers shall provide more effective hearing protectors where necessary (1910.95(j)(4)).

11. General information on some types of hearing protectors:

    a. **Single use earplugs** are made of waxed cotton, foam, silicone, rubber, or fiberglass wool. They are self-forming and, when properly inserted, they work as well as most molded earplugs.

    b. **Pre-formed or molded earplugs** need to be individually fitted by a professional and can be disposable or reusable. Reusable plugs need to be cleaned after each use.

    c. **Earmuffs** require a complete seal around the ears. Glasses, facial hair, long hair or facial movements (such as chewing) may reduce the protective value of earmuffs.

II. Employer Obligations to Provide and Pay for Personal Protective Equipment (PPE). The PPE standards for marine terminals, 29 CFR 1917.91 through 1917.96, and for longshoring, 29 CFR 1918.101 through 1918.106, establish the employer's obligation to provide PPE to employees.

Many OSHA safety and health standards require employers to provide their employees with specific protective equipment, including personal protective equipment (PPE), when such equipment is necessary to protect employees from job-related injuries, illnesses, and fatalities. These requirements address PPE such as: hard hats, gloves, goggles, safety shoes, safety glasses, welding helmets and goggles, face shields, chemical protective equipment, and fall protection equipment. OSHA standards requiring PPE state that the employer is to provide such PPE, but some of these provisions do not state that the employer is to provide such PPE at no cost to the employee.

A. **Summary**.

OSHA's final rule for *Employer Payment for Personal Protective Equipment* adds explicit employer payment requirements to PPE provisions applicable to most industries, including the marine terminals and longshoring PPE provisions at 29 CFR Parts 1917 and 1918. 72 F.R. 64341-64430 (November 15, 2007).

B. **Background**.

The rule did not change existing OSHA requirements as to the types of PPE that must be provided. Instead, the rule merely clarified that employers must pay for PPE **required to comply with OSHA standards**, except in the limited cases specified in the standards.

The final rule for *Employer Payment for Personal Protective Equipment* became effective on February 13, 2008. The compliance deadline was May 15, 2008. This instruction provides enforcement guidance on the payment responsibilities of employers under OSHA standards requiring the use of PPE.

The PPE payment regulatory text for marine terminals can be found at 1917.96(a) through (g) and for longshoring at 1918.106(a) through (g). The provisions applicable to other OSHA Parts are noted below.

C. **PPE that is required to be provided at no cost to employees.**

PPE Payment Standards for Covered Industries	
General Industry	1910.132(h)(1) through (h)(7)
Shipyard Employment	1915.152(f)(1) through (f)(7)
Marine Terminals	1917.96(a) through (g)
Longshoring	1918.106(a) through (g)
Construction	1926.95(d)(1) through (d)(7)

1. With some exceptions, employers must provide at no cost to employees the PPE that is used to comply with the provisions in Parts 1910, 1915, 1917, 1918, and 1926 that require PPE.

   For example, the employer shall ensure that each affected employee wears a protective helmet when working in areas where there is a potential for injury to the head from falling objects. (See 1917.93(a) and 1918.103(a))

2. Generally, employers must provide PPE at no cost to their employees.

   a. CSHOs should determine all relevant factors that establish the existence of an employer-employee relationship. The nature and degree of control asserted over the work is one of many factors in examining whether an employer-employee relationship is present. Other factors include the level of skill required to perform effectively, the source of required instruments and tools, the location of the work, the duration of the relationship between the parties, the right of the employer to assign new projects to the individual, the extent of the individual's control over when and how long to work, the method of payment, the individual's role in hiring and paying assistants, whether the work is the regular business of the employer, the provision of employee benefits, and the tax treatment of the individual. If a difficult question arises, then consult the Regional Solicitor.

   b. As noted above, the final rule applies to general industry, shipyard employment, marine terminals, longshoring, and construction. The PPE payment requirements apply to all employers in these industries, including those with short-term employees, whether referred to as temporary employees, piece workers, seasonal employees, hiring hall employees, labor pool employees, or transient employees. The PPE payment rule does not apply to agriculture.

   c. If an employer-employee relationship is established, then the employer must provide PPE at no cost to that employee. A truly self-employed "independent contractor" is not an "employee" under the OSH Act and is not covered by OSHA standards. CSHOs should carefully scrutinize claims that employees involved with marine terminals, longshoring operations and related employments are in fact truly independent contractors.

3. Employers must provide, at no cost to employees, metatarsal guards attachable to shoes when metatarsal protection is necessary (1917.96(c) and 1918.106(c)). If metatarsal protection is necessary under OSHA standards, and an employer requires employees to use metatarsal shoes instead of detachable guards, then the employer is required to provide the metatarsal shoe at no cost to the employee. If the employer provides metatarsal guards and allows the employee, at his or her request, to use shoes or boots with built-in metatarsal protection, then the employer is not required to pay for the metatarsal shoes or boots.

4. An employer must provide, at no cost to employees, upgraded PPE that the employer chooses to use to meet OSHA PPE requirements. OSHA standards set minimum requirements, but if employers choose a more expensive way to comply, then they have to provide the "upgraded" PPE at no cost to employees.

D. **Examples of PPE that employers must provide at no cost to employees**. The list below provides examples of PPE items that an employer is required to provide at no cost to employees under the PPE payment rule in complying with an OSHA standard. This table is not intended to be exhaustive.

EXAMPLES OF PPE FOR WHICH EMPLOYER PAYMENT IS REQUIRED WHEN USED TO COMPLY WITH AN OSHA STANDARD

Metatarsal foot protection.
Special boots for longshoremen working logs.
Rubber boots with steel toes.
Shoe covers – toe caps and metatarsal guards.
Non-prescription eye protection.
Prescription eyewear inserts/lenses for full-facepiece respirators.
Prescription eyewear inserts/lenses for welding and diving helmets.
Goggles.
Face shields.
Laser safety goggles.
Firefighting PPE (helmet, gloves, boots, proximity suits, full gear).
Hard hats / Bump caps.
Hearing protection.
Welding PPE.
Items used in medical/laboratory settings to protect from exposure to infectious agents (aprons, lab coats, goggles, disposable gloves, shoe covers, etc.).
Non-specialty gloves: • Payment is required if they are PPE, such as for protection from dermatitis, severe cuts/abrasions. • Payment is not required if they are only for keeping clean or for cold weather (with no safety or health considerations).
Rubber sleeves.
Aluminized gloves.
Chemical-resistant gloves/aprons/clothing.
Barrier creams (unless used solely for weather-related protection).
Rubber insulating gloves.
Mesh cut-proof gloves, mesh or leather aprons.
Self-Contained Breathing Apparatus, atmosphere-supplying respirators (escape only).

Respirators.
Personal fall protection.
Ladder safety device belts.
Climbing ensembles used by linemen (for example, belts and climbing hooks).
Window cleaners' safety straps.
Personal Flotation Devices (life jackets).
Encapsulating chemical protective suits.
Reflective work vests.

E. **Exceptions to the PPE Payment Rule (i.e., PPE that the rule does not require to be provided at no cost to employees). For example:**

Non-Specialty PPE or Ordinary Safety Equipment

- Safety toe protective footwear (leather/steel toe shoes/boots).
- Prescription safety eyewear (ordinary).

1. **Non-specialty safety-toe protective footwear** if the employer allows the employee to wear it off the job site. (See 29 CFR 1910.132(h)(2); 1915.152(f)(2); 1917.96(b); 1918.106(b); 1926.95(d)(2))

2. **Non-specialty prescription safety eyewear** if the employer allows the employee to wear it off the job site. (See 29 CFR 1910.132(h)(2); 1915.152(f)(2); 1917.96(b); 1918.106(b); 1926.95(d)(2))

3. **Metatarsal shoes** (shoes with integrated metatarsal protection) as long as the employer allows the use of and provides, at no cost to employees, metatarsal guards attachable to shoes when metatarsal protection is required by OSHA standards. (See 29 CFR 1910.132(h)(3); 1915.152(f)(3); 1917.96(c); 1918.106(c); 1926.95(d)(3))

4. **Logging boots** required by 1910.266(d)(1)(v). The logging standard does not require employers to pay for the logging boots required by 1910.266(d)(1)(v), but leaves the responsibility for payment open to employer and employee negotiation. The final PPE payment rule excludes this PPE from the employer payment requirement. (See 29 CFR 1910.132(h)(4)(i))

5. **Everyday clothing**. Long-sleeved shirts, long pants, street shoes, and ordinary fabric or leather work gloves may help employees avoid workplace injury and have protective value; however, the final rule excludes this everyday clothing from the employer payment rule. (See 29 CFR 1910.132(h)(4)(ii); 1915.152(f)(4)(i); 1917.96(d)(1); 1918.106(d)(1); 1926.95(d)(4)(i))

6. **Ordinary clothing** used solely for protection from weather. Employers are not required to pay for ordinary clothing, skin creams, or other items used solely for protection from weather such as winter coats, jackets, gloves, and parkas that employees would normally have to protect themselves from the elements. (See 29 CFR 1910.132(h)(4)(iii); 1915.152(f)(4)(ii); 1917.96(d)(2); 1918.106(d)(2); 1926.95(d)(4)(ii))

   NOTE: In the rare case that ordinary weather gear is not sufficient to protect the employee and special equipment or extraordinary clothing is needed to protect the

employee from unusually severe weather conditions, the employer is required to pay for such protection. Clothing used in artificially-controlled environments with extreme hot or cold temperatures, such as freezers, is not considered part of the weather gear exception.

7. **Replacement PPE when the employee has lost or intentionally damaged the PPE.** Existing PPE standards require that the employer provide replacement PPE used to comply with OSHA standards as necessary, when the PPE no longer provides the protection it was designed to provide, or when the previously provided PPE is no longer adequate or functional. The final rule clarifies that when an employee has lost or intentionally damaged the PPE issued to him or her, an employer is not required to pay for its replacement and may require the employee to pay for such replacement. (See 29 CFR 1910.132(h)(5); 1915.152(f)(5); 1917.96(e); 1918.106(e); 1926.95(d)(5))

8. **Employee-owned PPE.**

   a. This exception refers to PPE that employees already own and request to use (and are allowed by the employer to use) instead of the PPE that the employer provides at no cost to employees.

   b. This exception also refers to upgraded PPE that employees want to buy and use (and that the employer allows) instead of the PPE that the employer provides at no cost to employees.

   c. The PPE payment rule recognizes that employees may wish to use PPE they already own. If the employer determines that the PPE is adequate and allows them to use the PPE instead of the PPE the employer has provided at no cost to employees, then the rule does not require the employer to reimburse the employee. However, the rule also makes clear that employers cannot require employees to provide their own PPE or to pay for their own PPE, unless such PPE is specifically exempted by the standard. The employee's use of PPE that he or she owns must be completely voluntary and not a condition of employment, continuing employment, or a condition for placement in a job. (See 29 CFR 1910.132(h)(6); 1915.152(f)(6); 1917.96(f); 1918.106(f); 1926.95(d)(6))

   NOTE: OSHA recognizes that in certain emergency situations, such as response to a natural disaster, where immediate action is required, it may be necessary for employers to hire or select employees already in possession of the appropriate PPE.

9. **Upgraded and Personalized PPE.**

   a. An employer does not have an obligation to pay for PPE requested by an employee that exceeds the PPE requirements, provided that the employer provides PPE that meets the standards at no cost to the employee.

   b. If the employer allows the employee to acquire and use upgraded or personalized PPE, then the employer is not required to reimburse the employee for the equipment, provided that the employer has provided adequate PPE at no cost to the employee.

c. An employer is still required to evaluate an employee's upgraded or personalized PPE to ensure that it is: adequate to protect from hazards present in the workplace, properly maintained, and kept in a sanitary condition.

10. **Examples of PPE and Other Items Exempted from the Employer Payment Requirements.**

The list below provides examples of PPE and other items that an employer is *not* required to provide at no cost.

EXAMPLES OF PPE AND OTHER ITEMS EXEMPTED FROM THE EMPLOYER PAYMENT REQUIREMENTS

Non-specialty safety-toe protective footwear (such as, steel-toe shoes/boots).
Non-specialty prescription safety eyewear.
Sunglasses/sunscreen.
Sturdy work shoes.
Non-specialty slip-resistant, non-safety-toe footwear.
Lineman's boots.
Ordinary cold weather gear (coats, parkas, cold weather gloves, and winter boots).
Logging boots required under 1910.266(d)(1)(v).
Ordinary rain gear.
Back belts.
Long-sleeve shirts.
Long pants.
Dust masks and respirators used under the voluntary use provisions in 1910.134.
Items worn to keep employees clean for purposes unrelated to safety or health (denim coveralls, aprons).
Items worn for product or consumer safety (not employee safety and health). For example: hairnets worn solely to protect food products from contamination, that is not used to comply with machine guarding requirements; and plastic or rubber gloves worn solely to prevent food contamination during meal preparation (This would *not* include cut-proof gloves worn to prevent lacerations).
Items worn for patient safety and health; not employee safety and health.
Uniforms, caps or other clothing worn solely to identify a person as an employee.
Travel time and related expenses for employees to shop for PPE.

F. **Permissible Use of PPE.**

1. An employer may allow PPE to be used off of the job site. However, they still must provide the required PPE at no cost to employees, even if use of the PPE is allowed off-site. An exception to this requirement exists located in Appendix A, Section II.C.

   NOTE: Some substance-specific OSHA standards require that PPE remain at the job site.

2. An employer may require that PPE provided at no cost to the employee remain at the worksite in, for example, lockers or other storage facilities.

   NOTE: If an employer requires, for any reason, employees to leave their non-specialty safety-toe protective footwear (including steel-toe shoes or steel-toe boots) and non-

specialty safety eyewear at the worksite, then the employer must provide that PPE at no cost to employees.

3. Employers can use policies such as allowances, replacement schedules, and fair and uniformly enforced work rules to ensure that employees properly use and care for employer-provided PPE so long as the policies ensure that employees receive replacement PPE at no cost to them as required by the rule.

4. Recovery of PPE.

   a. The rule does not prohibit the employer from requiring the employee to return the PPE (provided at no cost) upon termination of employment. If an employee quits his/her job and does not return the employer's PPE, then the employer may require the employee to pay for it, or take reasonable steps to retrieve the PPE.

   b. Employers who employ short-term and part-time employees may require employees to return employer-owned PPE at the end of the day or when they terminate employment, and may use a deposit system or other mechanism to help ensure that such employees return the PPE.

5. Payment for Replacement PPE.

   a. Employers are required to replace PPE following the criteria in OSHA's existing standards governing when PPE is required to be replaced. For example: "Hearing protectors shall be replaced as necessary," under 29 CFR 1910.95(i)(1) means that employers must replace worn out hearing protectors.

   b. Employers must provide replacement PPE at no cost to the employee except when the employee has lost or intentionally damaged the PPE.

   c. Employers do not have to bear the cost of replacing PPE that the employee has lost, even if it is a single instance. The PPE may be considered "lost" if the employee comes to work without the issued PPE.

   d. The rule does not prohibit employers from sending employees home to retrieve the PPE or from charging an employee for replacement PPE when the employee fails to bring the PPE back to the workplace.

   e. Employers are free to develop and implement workplace rules, such as reasonable and appropriate disciplinary policies, replacement schedules, and allowances, to ensure that employees have and use the PPE that the employer has provided at no cost to employees.

   f. The employer has an obligation to pay for replacement PPE when the working conditions have changed such that PPE an employee has provided at his/her cost, and which was not previously required to comply with an OSHA standard, later becomes required by an OSHA standard.

   g. If the employee has provided PPE at his/her own cost that is no longer adequate, then the employer must pay for the replacement PPE that is required to comply with the

rule, unless the employee voluntarily decides to provide and pay for his or her own replacement PPE, which may occur if the employee wants personalized or upgraded PPE. However,

- the employer is prohibited from requiring employees to provide their own PPE unless exempted from the payment standard; and

- the employer must pay for replacement PPE if the employee no longer volunteers his or her own PPE for workplace use.

III. Citation Policy for PPE Payment.

A. **1917 and 1918 standards requiring PPE to be provided at no cost to the employee**.

29 CFR 1917.96 and 1918.106, *Payment for protective equipment*. Except as provided by paragraphs (b) through (f) of these sections, the protective equipment, including personal protective equipment (PPE), used to comply with this part, shall be provided by the employer at no cost to employees. If a standard requiring the use of PPE addresses the issue of payment, then that specific standard shall be cited if the employer fails to provide the required PPE at no cost to employees. The following is an example of a 29 CFR Part 1917 standard that addresses the issue of payment for PPE:

- 29 CFR 1917.1(b) references 29 CFR 1915.1026(g)(1), *Hexavalent Chromium*. The employer shall provide appropriate personal protective clothing and equipment at no cost to employees, and shall ensure that employees use such clothing and equipment.

B. **Citations for employer failure to pay under 29 CFR Parts 1917 and 1918**.

1. Employers shall be cited using 29 CFR 1917.96(a) or 1918.106(a) whenever they charge an employee for the cost of required PPE they have provided. Employers shall be cited under 29 CFR 1917.96(e) or 1918.106(e) when they have failed to pay for replacement PPE at no cost, except in cases where the employee has lost or intentionally damaged the PPE. Citations shall be issued under 29 CFR 1917.96(f) or 1918.106(f) when the employer requires an employee to use PPE he or she already owns, unless the PPE is exempted by paragraphs (b) through (e).

2. In cases where an employer is cited for failing to provide PPE, an additional citation should not be issued for failure to pay for the PPE.

3. Classifications and grouping violations should be in accordance with OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM), Chapter 4, Violations*.

4. Abatement dates for violations of 29 CFR 1917.96 and 1918.106 shall normally not exceed 30 days.

C. **Citation scenarios**. The following are examples of potential workplace conditions that would lead to a citation under 29 CFR 1917.96 and 1918.106:

1. The employer has provided the PPE required by an OSHA standard under Part 1917 and 1918, but charges the employee for the equipment by deducting the costs of the PPE from the employee's pay.

   - The employer would be cited for a violation of 29 CFR 1917.96(a) or 1918.106(a).

2. The employee initially purchases the required PPE and is reimbursed by the employer several months later.

   - Reimbursement systems that delay payment of PPE should not exceed one billing cycle or one pay period. The employer would be cited for a violation of 29 CFR 1917.96(a) or 1918.106(a).

3. The employer provides and pays for the initial PPE in accordance with another OSHA standard but later charges the employee for replacement PPE.

   - Provided that the employee has not lost or intentionally damaged the PPE, the employer would be cited for a violation of 29 CFR 1917.96(e) or 1918.106(e).

4. Initially, an employee voluntarily provides his/her own PPE that the employer would have been required to provide at no cost; however, the employee later decides not to continue using the PPE for work. The employer purchases the required PPE for the employee but charges the employee for it.

   - The employee may voluntarily use their own equipment without employer reimbursement, provided that the PPE is adequate and the employer allows its use. However, an employee may elect to stop volunteering their own equipment. If the employer charges the employee for replacing this PPE, then the CSHO should cite for a violation of 29 CFR 1917.96(e) or 1918.106(e).

D. PPE payment questions and answers.

Question 1: Are employers required to pay for lineman belts and hooks when used to comply with an OSHA standard?

Answer: Yes. Lineman belts and hooks provide protection to employees from falls while climbing and/or performing work. This equipment is considered PPE and employers must pay for it when used to comply with an OSHA standard.

Question 2: Electrical employees may use fiberglass poles known as "hot sticks" to push over power lines when they are working on the lines. Are these poles regarded as PPE?

Answer: No. While some specific and specialized tools have protective characteristics, such as electrically insulated "hot sticks" used by electric utility employees to handle live power lines, this equipment is more properly viewed as an engineering control that isolates the employee from the hazard. Therefore, they are not covered by the PPE payment standard. However, because they are an engineering control method, employers must pay for this equipment.

Question 3: As it pertains to prescription eyewear, would non-specialty safety eyewear furnished with permanent side shields be paid for by the employer?

Answer: The PPE payment rule specifically exempts non-specialty prescription safety eyewear. Non-specialty safety eyewear worn to protect an employee from impact hazards typically has removable or permanent side shields to provide this protection. Employers are not required to pay for prescription safety eyewear with removable or permanent side shields as long as the employer provides safety eyewear that fits over the employee's prescription lenses. (See preamble to 72 F.R. 64341-64430, *Employer Payment for Personal Protective Equipment; Final Rule*, November 15, 2007.)

Question 4: In some situations, employees are required to wear shoes with a slip-resistant sole that are uniform in color. The employees wear the shoes to and from work and in other places outside of the work environment. These shoes are indistinguishable from ordinary "street" shoes and many different types of shoes with rubber soles. These employees are not exposed to hazards such as crushing or penetrating injuries or falling or rolling objects, requiring safety shoes with steel toes or metatarsal protection. In such cases, would the slip-resistant shoes required here rise to the level of safety footwear with additional protection or more specialized protection, and, therefore, must be provided at no cost?

Answer: No. The employer is not required to pay for non-specialty shoes that offer some slip-resistant characteristics, but are otherwise ordinary clothing in nature.

Question 5: What are some examples of equipment that the standard does not require employers to pay for?

Answer: Employers are not required to pay for items worn to keep an employee clean for purposes unrelated to safety or health (e.g., denim coveralls and aprons worn solely to prevent clothing and/or skin from becoming soiled and unrelated to safety or health). In addition, the employer does not have to pay for uniforms, caps, or other clothing worn solely to identify a person as an employee.

IV. PPE Standards Reference Table. The following table is provided to assist in the identification of applicable OSHA standards that require PPE.

OSHA Standards that Require PPE[1]

General Industry		Shipyard Employment	Marine Terminals	Longshoring	Construction	
1910.28	1910.268	1915.12	1917.22	1918.85	1926.28	1926.353
1910.66	1910.269	1915.13	1917.23	1918.86	1926.52	1926.354
1910.67	1910.272	1915.32	1917.25	1918.88	1926.55	1926.416
1910.94	1910.333	1915.33	1917.26	1918.93	1926.57	1926.451
1910.95	1910.335	1915.34	1917.49	1918.94	1926.60	1926.453
1910.119	1910.1000	1915.35	1917.71	1918.101	1926.62	1926.501
1910.120	1910.1001	1915.51	1917.73	1918.102	1926.64	1926.502
1910.132	1910.1003	1915.53	1917.91	1918.103	1926.65	1926.550
1910.133	1910.1017	1915.73	1917.92	1918.104	1926.95	1926.551
1910.134	1910.1018	1915.77	1917.93	1918.105	1926.96	1926.605
1910.135	1910.1025	1915.135	1917.94		1926.100	1926.651
1910.136	1910.1026	1915.152	1917.95		1926.101	1926.701
1910.137	1910.1027	1915.153	1917.118		1926.102	1926.760
1910.138	1910.1028	1915.154	1917.126		1926.103	1926.800
1910.146	1910.1029	1915.155	1917.152		1926.104	1926.951
1910.156	1910.1030	1915.156	1917.154		1926.105	1926.955
1910.157	1910.1043	1915.157			1926.106	1926.959
1910.160	1910.1044	1915.158			1926.250	1926.1053
1910.183	1910.1045	1915.159			1926.300	1926.1101
1910.218	1910.1047	1915.160			1926.302	1926.1126
1910.242	1910.1048	1915.504			1926.304	1926.1127
1910.243	1910.1050	1915.505				
1910.252	1910.1051	1915.1001				
1910.261	1910.1052	1915.1026				
1910.262	1910.1096					
1910.265	1910.1450					
1910.266						

[1] Other PPE requirements may be enacted from time to time. This list should not be considered definitive.

APPENDIX B: OSHA LONGSHORING AND MARINE TERMINALS CROSS-REFERENCE INDEX FOR STANDARD SECTIONS TO FEDERAL REGISTER NOTICE PREAMBLE AND REGULATORY TEXT

This appendix provides a cross-reference for sections of the standard in the preamble and regulatory text as published in the Federal Register of Friday, July 25, 1997, *Longshoring and Marine Terminals; Final Rule*. Sections which were addressed in both the preamble and the regulatory text will have the applicable page number(s) from the *printed* Federal Register listed for each. Sections which were addressed in only the regulatory text will have the applicable page number(s) from the *printed* Federal Register listed. Sections which were not changed or renumbered as part of the rulemaking have no reference page number(s) listed. When using the *electronic* copy of the Federal Register, the page numbers referenced in this table are not available; however, the document can be searched by keyword (select "edit" and then "find"; or "CTRL + F").

While every effort has been made to identify all applicable cross-references to the appropriate Federal Register text, this appendix cannot, and is not intended to, enlarge or diminish employer obligations under the OSH Act. Furthermore, while preamble text may provide clarification regarding the nature or scope of a regulation, it is not a substitute for, nor does it supersede, the text of the regulation. Employers should consult the current Code of Federal Regulations for the complete text of regulations contained in 29 CFR Parts 1917 and 1918.

Copies of any Federal Register can be obtained from the Superintendent of Documents, U.S. Government Printing Office (GPO), or on the World Wide Web at http://www.gpoaccess.gov/fr/.

PART 1917 - MARINE TERMINALS

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1917.1	Scope and Applicability [Includes 1910 Applicability]	40146	40196
1917.2	Definitions	40146	40196
1917.3	Incorporation by Reference	-----	40196
1917.11	Housekeeping	-----	40196 - 40197
1917.12	Slippery Conditions	-----	-----
1917.13	Slinging	-----	40197
1917.14	Stacking of Cargo and Pallets	-----	-----
1917.15	Coopering	-----	-----
1917.16	Line Handling	-----	-----
1917.17	Railroad Facilities	-----	40197
1917.18	Log Handling	-----	-----
1917.19	Movement of Barges and Railcars	-----	-----
1917.20	Interference with Communications	-----	40197
1917.21	Open Fires	-----	-----
SECTION #	**HEADING/DESCRIPTION**	**PREAMBLE**	**REG/TEXT**

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1917.22	Hazardous Cargo	40180 [1918.89]	-----
1917.23	Hazardous Atmospheres/Substances	-----	40197
1917.24	Carbon Monoxide	-----	40197
1917.24(a)	Carbon Monoxide	40182 [1918.94(a)(1)(ii)]	40197
1917.25	Fumigants, Pesticides, Insecticides and Hazardous Preservatives	-----	40197
1917.25(a)	Fumigants	40183 [1918.94(d)]	40197
1917.25(g)	Fumigants (Intermodal Containers)	40147	40197
1917.26	First Aid and Lifesaving Facilities	40184 - 40185 [1918.97]	40197
1917.26(c) & (d)	First Aid and Stretchers	40185 [1918.97(c) & (d)]	40197
1917.27	Personnel	40185 - 40186 [1918.98]	40197 - 40198
1917.27(a)(2)	Personnel	40185 - 40186 [1918.98(a)(2)]	40197 - 40198
1917.28	Hazard Communication	-----	40198
1917.29	Retention of DOT Markings, Placards and Labels	-----	-----
1917.30	Emergency Action Plans	40186 - 40187 [1918.100]	40198
1917.41	House Falls	-----	-----
1917.42	Miscellaneous Auxiliary Gear	-----	40198
1917.42(g)(2)(vi)	Slings Criteria	40166 [1918.62(g)(2)(vi)]	40198
1917.43	Powered Industrial Trucks	-----	40198 - 40199
1917.44	General Rules Applicable to Vehicles	-----	40199
1917.45	Cranes and Derricks	-----	40199
1917.45(f)(5)(i)	Crane Cab Glass	40162 [1918.55(b)(1)]	40199
1917.45(f)(5)(ii)	Seat Belts on Gantry Cranes	40147	40199
1917.45(j)(2)	Cranes Hoisting Personnel	40168 [1918.66(c)(2)]	40199
1917.45(j)(9)	Riding the Load	40173 [1918.85(h)]	40199
SECTION #	**HEADING/DESCRIPTION**	**PREAMBLE**	**REG/TEXT**

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1917.46	Load Indicating Devices	40147	40199 - 40200
1917.47	Winches	-----	-----
1917.48	Conveyors	-----	40200
1917.49	Spouts, Chutes, Hoppers, Bins, and Associated Equipment	-----	-----
1917.50	Certification of Marine Terminal Material Handling Devices	-----	40200
1917.50(c)(5)	Special Gear	40164 [1918.61(f)]	40200
1917.51	Hand Tools	40170 [1918.69]	-----
1917.70	General (Specialized Terminals)	-----	-----
1917.71	Terminals Handling Intermodal Containers or Ro-Ro Operations	-----	40200
1917.71(b)(6)	Automobiles in Containers	40170 [1918.85(b)(6)]	40200
1917.71(f)	Vertical Lifts - Containers	40170 - 40172 [1918.85(f)(1)(i)]	40200
1917.73	Terminal Facilities Handling Menhaden and Similar Species of Fish	-----	40201
1917.73(a)(2)	Menhaden	40183 [1918.94(f)(4)]	40201
1917.91	Eye and Face Protection	-----	40201
1917.91(a)(1)	Eye Protection	40187 [1918.101(a)(1)]	40201
1917.92	Respiratory Protection	-----	-----
1917.93	Head Protection	-----	40201
1917.93(b)	Head Protection	40187 [1918.103(b)]	40201
1917.94	Foot Protection	-----	40201
1917.94(b)	Foot Protection	40187 [1918.103(b)]	40201
1917.95	Other Protective Measures (Clothing, PFDs)	-----	40201
1917.95(b)(2)	Personal Flotation Devices	40187	40201
1917.96	Payment for Personal Protective Equipment (PPE)	-----	64341-64430
1917.111	Maintenance and Load Limits	-----	-----
SECTION #	**HEADING/DESCRIPTION**	**PREAMBLE**	**REG/TEXT**

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1917.112	Guarding of Edges	-----	40201
1917.113	Clearance Heights	-----	-----
1917.114	Cargo Doors	-----	-----
1917.115	Platforms and Skids	-----	-----
1917.116	Elevators and Escalators	-----	-----
1917.117	Manlifts	-----	-----
1917.118	Fixed Ladders	-----	40201
1917.119	Portable Ladders	-----	40201
1917.120	Fixed Stairways	-----	-----
1917.121	Spiral Stairways	-----	40201
1917.122	Employee Exits	-----	-----
1917.123	Illumination	-----	-----
1917.124	Dockboards (Car and Bridge Plates)	-----	40201
1917.124(c)(5) and (c)(6)	Dockboards (Car and Bridge Plates)	40156 - 40157	40201
1917.124(d)(1) and (d)(5)	Ramps	40157	40201
1917.125	Guarding Temporary Hazards	-----	-----
1917.126	River Banks	-----	40201
1917.127	Sanitation	-----	-----
1917.127(a)(1)	Sanitation	40184	-----
1917.128	Signs and Markings	-----	-----
1917.151	Machine Guarding	40184	-----
1917.152	Welding, Cutting and Heating (Hot Work)	-----	40202
1917.153	Spray Painting	-----	40202
1917.154	Compressed Air	-----	-----
1917.155	Air Receivers	-----	-----
1917.156	Fuel Handling and Storage	-----	40202
1917.157	Battery Charging and Changing	-----	40202
1917.158	Prohibited Operations	-----	-----
SECTION #	**HEADING/DESCRIPTION**	**PREAMBLE**	**REG/TEXT**

PART 1918 - LONGSHORING

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1918.1	Scope and Application [Includes 1910 Applicability]	40147 - 40150	40202
1918.2	Definitions	40150 - 40151	40203
1918.3	Incorporation by Reference	-----	40204
1918.11	Gear Certification	40151 - 40154	40204
1918.21	General Requirements	40154 - 40155	40204
1918.22	Gangways	40154 - 40155	40204 - 40205
1918.23	Jacob's Ladders	40155	40205
1918.24	Fixed and Portable Ladders	40155 - 40156	40205
1918.25	Bridge Plates and Ramps	40156 - 40157	40206
1918.26	Access to Barges and River Towboats	40157	40206
1918.31	Hatch Coverings	40157	40206
1918.32	Stowed Cargo and Temporary Landing Surfaces	40157 - 40158	40206
1918.33	Deck Loads	40158	40206
1918.34	Other Decks	40158	40206
1918.35	Open Hatches	40158	40206
1918.36	Weather Deck Rails	40158	40206
1918.37	Barges	40158	40206 - 40207
1918.41	Coaming Clearances	40159	40207
1918.42	Hatch Beam and Pontoon Bridles	40159	40207
1918.43	Handling Hatch Beams and Covers	40159 - 40160	40207 - 40208
1918.51	General Requirements	40160 - 40161	40208
1918.52	Specific Requirements	40161	40208
1918.53	Cargo Winches	40161 - 40162	40208
1918.54	Rigging Gear	40162	40209
1918.55	Cranes	40162 - 40163	40209
1918.55(c)(2)	Limit Switch Bypass Systems	40162 - 40163	40209
1918.61	General	40164 - 40165	40209 - 40210
1918.62	Miscellaneous Auxiliary Gear	40165 - 40167	40210 - 40211
1918.63	Chutes, Gravity Conveyors and Rollers	40167	40212
1918.64	Powered Conveyors	40167	40212
1918.64(k)	Lockout/Tagout	40167	40212
1918.65	Mechanically-powered Vehicles Used Aboard Vessels	40167 - 40168	40212 - 40213
SECTION #	**HEADING/DESCRIPTION**	**PREAMBLE**	**REG/TEXT**

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1918.66	Cranes/Derricks Other than Vessel's Gear	40168 - 40170	40213 - 40215
1918.66(c)	Hoisting Personnel; Anti-Two-Blocking	40168 - 40169	40214
1918.67	Notifying Ship's Officers Before Using Certain Equipment	40170	40215
1918.68	Grounding	40170	40215
1918.69	Tools	40170	40215
1918.81	Slinging	40170	40215 - 40216
1918.82	Building Drafts	40170	40216
1918.83	Stowed Cargo; Tiering/Breaking Down	40170	40216
1918.84	Bulling Cargo	40170	40216
1918.85	Containerized Cargo Operations	40170	40216 - 40218
1918.85(f)	Vertical Lifting of Intermodal Containers	40170 - 40172	40217
1918.85(j)	Fall Protection	40173 - 40176	40217
1918.85(k)	Fall Protection Systems	40176 - 40177	40217 - 40218
1918.86	Roll-on Roll-off (Ro-Ro) Operations	40177 - 40179	40218
1918.87	Ship's Cargo Elevators	40179	40218
1918.88	Log Operations	40179 - 40180	40218 - 40219
1918.89	Handling Hazardous Cargo	40180	40219
1918.90	Hazard Communication	40180	40219
1918.91	Housekeeping	40180	40219
1918.92	Illumination	40180	40219
1918.93	Hazardous Atmospheres and Substances	40180	40219
1918.94	Ventilation and Atmospheric Conditions	40181 - 40183	40220 - 40221
1918.95	Sanitation	40184	40221
1918.96	Maintenance and Repair Work in the Vicinity of Longshoring Operations	40184	40221
1918.96(e)	Danger Zone and Lockout/Tagout	40184	40221
1918.97	First Aid and Lifesaving Facilities	40184 - 40185	40221
1918.98	Qualifications of Machinery Operators and Supervisory Training	40185 - 40186	40221 - 40222
1918.99	Retention of DOT Markings, Placards and Labels	40186	40222
1918.100	Emergency Action Plans	40186 - 40187	40222
1918.101	Eye and Face Protection	40187	40222
1918.102	Respiratory Protection	40187	40222
1918.103	Head Protection	40187	40222
SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT

SECTION #	HEADING/DESCRIPTION	PREAMBLE	REG/TEXT
1918.104	Foot Protection	40187	40223
1918.105	Other Protective Measures	40187	40223
1918.106	Payment for Personal Protective Equipment (PPE)	-----	64341-64430
Appendix I	Cargo Gear Register and Certificates [Non-Mandatory]	40187	40223 - 40227
Appendix II	Tables for Selected Miscellaneous Auxiliary Gear [Mandatory]	40188	40227 - 40231
Appendix III	The Mechanics of Conventional Cargo Gear [Non-Mandatory]	40188	40231 - 40232
Appendix IV	Special Cargo Gear and Certain Spreader Test Requirements [Mandatory]	40188	40232
Appendix V	Basic Elements of a First Aid Training Program [Non-Mandatory]	40188	40232 - 40234

APPENDIX C: CROSS-REFERENCE INDEX FOR PART 1917 TO PART 1918

This cross-reference index lists 29 CFR Part 1917 Standards, and the location of identical or similar standards in 29 CFR Part 1918.

While every effort has been made to identify all applicable cross-references between the appropriate 29 CFR Parts 1917 and 1918 texts, this appendix is not intended to enlarge or diminish employer obligations under the OSH Act.

Subject Title From Part 1917	29 CFR Part 1917	29 CFR Part 1918
Scope and Applicability [Includes 1910 Applicability]	1917.1	1918.1
Definitions	1917.2	1918.2
Incorporation by Reference [Standards]	1917.3	1918.3
Housekeeping	1917.11	1918.91
Slippery Conditions	1917.12	1918.91(b)
Slinging	1917.13	1918.81
Stacking of Cargo and Pallets	1917.14	1918.83
Coopering	1917.15	-----
Line Handling	1917.16	-----
Railroad Facilities	1917.17	-----
Log Handling	1917.18	1918.88
Movement of Barges and Railcars	1917.19	1918.84(e)
Interference with Communications	1917.20	1918.96(a)
Open Fires	1917.21	-----
Hazardous Cargo	1917.22	1918.89
Hazardous Atmospheres and Substances	1917.23	1918.93
Carbon Monoxide	1917.24	1918.94(a)(1)
Fumigants, Pesticides, Insecticides, etc.	1917.25	1918.94(b) thru (f)
First Aid and Lifesaving Facilities	1917.26	1918.97
Stretchers/Stokes Basket	1917.26(d)	1918.97(d)
Personnel	1917.27	1918.98
Suddenly Incapacitating Medical Ailments	1917.27(a)(2)	1918.98(a)(2)
Supervisor Accident Prevention Proficiency	1917.27(b)	1918.98(b)
Subject Title From Part 1917	**29 CFR Part 1917**	**29 CFR Part 1918**

Subject Title From Part 1917	29 CFR Part 1917	29 CFR Part 1918
Hazard Communication	1917.28	1918.90
Retention of DOT Markings, Placards And Labels	1917.29	1918.99
Emergency Action Plans	1917.30	1918.100
House Falls	1917.41	1918.51 & .52(c)
Miscellaneous Auxiliary Gear	1917.42	1918.54 & .62
Powered Industrial Trucks	1917.43 & 1910.178(l)	1918.65 & 1910.178(l)
General Rules Applicable to Vehicles	1917.44	1918.86
Cranes and Derricks	1917.45	1918.55 & .66
Crane Cab Glass	1917.45(f)(5)(i)	1918.55(b)(1)
Crane-Bypass Limit Switch	1917.45(g)(11)	1918.55(c)(2)
Cranes-Protections for Hoisting Personnel	1917.45(j)	1918.66(c)
Container Top Safe Access/Egress	1917.45(j)	1918.85(g)
Anti-Two-Blocking Devices; Use of	1917.45(j)(9)	1918.66(c)(3)
Riding the Load	1917.45(j)(9)	1918.85(h)
Load Indicating Devices	1917.46	1918.66(f)
Winches	1917.47	1918.53
Conveyors	1917.48	1918.63 & .64
Spouts, Chutes, Hoppers, Bins, etc.	1917.49	1918.63
Certification of Material Handling Devices	1917.50	1918.11
Special Stevedoring Gear; Testing	1917.50(c)	1918.61(h)
Special Gear	1917.50(c)(5)	1918.61(f)
Hand Tools	1917.51	1918.69
Terminals Handling Intermodal Containers or Roll-on Roll-off Operations	1917.71	1918.85 & 1918.86
Automobiles in Containers	1917.71(b)(6)	1918.85(b)(6)
Vests: High Visibility/Retro-reflective Material	1917.71(e)	1918.86(m)
Vertical Lifts-Containers	1917.71(f)	1918.85(f)(1)(i)
Trailer Load Limits	1917.71(f)(4)	1918.86(g)
Subject Title From Part 1917	**29 CFR Part 1917**	**29 CFR Part 1918**

Subject Title From Part 1917	29 CFR Part 1917	29 CFR Part 1918
Menhaden and Similar Fish; Handling	1917.73	1918.94(f)
Eye and Face Protection	1917.91	1918.101
Respiratory Protection	1917.92	1918.102
Head Protection	1917.93	1918.103
Foot Protection	1917.94	1918.104
Protective Clothing	1917.95(a)	1918.105(a)
Personal Flotation Devices (PFDs)	1917.95(b)	1918.105(b)
Payment for Personal Protective Equipment (PPE)	1917.96	1918.106
Maintenance and Load Limits (Docks/Piers)	1917.111	-----
Guarding of Edges	1917.112	1918.32 & .34
Clearance Heights	1917.113	1918.86(e)
Cargo Doors	1917.114	1918.43
Platforms and Skids	1917.115	1918.34
Elevators and Escalators	1917.116	1918.87
Manlifts	1917.117	1918.65(h)(11)
Fixed Ladders	1917.118	1918.24
Portable Ladders	1917.119	1918.23, .24 & .26
Fixed Stairways	1917.120	-----
Spiral Stairways	1917.121	-----
Employee Exits	1917.122 & .30	1918.33, .37, .41 & .100
Illumination	1917.123	1918.92
Dockboards (Car and Bridge Plates)	1917.124	1918.25
Dockboards	1917.124(c)(5) & (c)(6)	1918.25(a)(4)
Ramps	1917.124(d)(1) & (d)(5)	1918.25(b)(5)
Guarding Temporary Hazards	1917.125	1918.32, .33, .35 & .41
River Banks	1917.126	-----
Subject Title From Part 1917	**29 CFR Part 1917**	**29 CFR Part 1918**

Subject Title From Part 1917	29 CFR Part 1917	29 CFR Part 1918
Sanitation	1917.127	1918.95
Sanitation; Washing and Toilet Facilities	1917.127(a)(1)	1918.95(a)(1)
Signs and Marking	1917.128	-----
Machine Guarding	1917.151	1918.96(e)
Welding, Cutting and Heating [Hot Work]	1917.152	1918.96(c) & (d)
Spray Painting	1917.153	1918.96(d)
Compressed Air	1917.154	-----
Air Receivers	1917.155	-----
Fuel Handling and Storage	1917.156	-----
Battery Charging and Changing	1917.157 & .43(c)(2)	1918.65(f)(5) & (f)(6)
Prohibited Operations	1917.158	1918.96(c) & (d)

APPENDIX D: CROSS-REFERENCE INDEX FOR PART 1918 TO PART 1917

This cross-reference index lists 29 CFR Part 1918 Standards, and the location of identical or similar standards in 29 CFR Part 1917.

While every effort has been made to identify all applicable cross-references between the appropriate 29 CFR Parts 1918 and 1917 texts, this appendix is not intended to enlarge or diminish employer obligations under the OSH Act.

Subject Title From Part 1918	29 CFR Part 1918	29 CFR Part 1917
Scope and Application [Includes 1910 Applicability]	1918.1	1917.1
Definitions	1918.2	1917.2
Incorporation by Reference	1918.3	1917.3
Gear Certification; Vessel's Cargo Handling	1918.11	1917.50
General Requirements	1918.21	-----
Gangways	1918.22	-----
Jacob's Ladders	1918.23	-----
Fixed and Portable Ladders	1918.24	1917.118 & .119
Bridge Plates and Ramps	1918.25	1917.124
Dockboards (Car and Bridge Plates)	1918.25(a)(4)	1917.124(c)(5) & (c)(6)
Dockboards	1918.25(b)(5)	1917.124(d)(1) & (d)(5)
Access to Barges and River Towboats	1918.26	-----
Hatch Coverings	1918.31	-----
Stowed Cargo and Temporary Landing Surfaces	1918.32	1917.125
Deck Loads	1918.33	-----
Other Decks	1918.34	-----
Open Hatches	1918.35	-----
Weather Deck Rails	1918.36	-----
Barges	1918.37	-----
Coaming Clearances	1918.41	-----
Hatch Beam and Pontoon Bridles	1918.42	-----
Handling Hatch Beams and Covers	1918.43	1917.114
General Requirements	1918.51	1917.41 & .42
Specific Requirements	1918.52	1917.42
Subject Title From Part 1918	**29 CFR Part 1918**	**29 CFR Part 1917**

Subject Title From Part 1918	29 CFR Part 1918	29 CFR Part 1917
Cargo Winches	1918.53	1917.47
Rigging Gear	1918.54	1917.41 & .42
Cranes	1918.55	1917.45
Crane Glass	1918.55(b)(1)	1917.45(f)(5)
Crane-Bypass Limit Switch	1918.55(c)(2)	1917.45(g)(11)
General	1918.61	-----
Special Gear	1918.61(f)	1917.50(c)(5)
Special Stevedoring Gear; Testing	1918.61(h)	1917.50(c)
Miscellaneous Auxiliary Gear	1918.62	1917.42
Chutes, Gravity Conveyors and Rollers	1918.63	1917.48 & .49
Powered Conveyors	1918.64	1917.48
Mechanically-Powered Vehicles; Vessels	1918.65 & 1910.178	1917.43 & 1910.178
Cranes and Derricks Other Than Vessels Gear	1918.66	1917.45
Cranes-Protections for Hoisting Personnel	1918.66(c)	1917.45(j)
Anti-Two-Blocking Devices; Use of	1918.66(c)(3)	1917.45(j)(9)
Load Indicating Device (LID) Requirements	1918.66(f)	1917.46
Notifying Ship's Officers (Equipment Use)	1918.67	-----
Grounding	1918.68 & 1910 Subpart S	1910 Subpart S
Tools	1918.69	1917.51
Slinging	1918.81	1917.13
Building Drafts	1918.82	-----
Stowed Cargo; Tiering/Breaking Down	1918.83	1917.14
Bulling Cargo	1918.84	-----
Movement of Barges and Railcars	1918.84(e)	1917.19
Containerized Cargo Operations	1918.85	1917.71
Automobiles in Containers	1918.85(b)(6)	1917.71(b)(6)
Vertical Lifts-Containers	1918.85(f)(1)(i)	1917.71(f)
Container Top Safe Access/Egress	1918.85(g)	1917.45(j)
Riding the Load	1918.85(h)	1917.45(j)(9)
Roll-on Roll-off (Ro-Ro) Operations	1918.86	1917.71
Trailer Load Limits	1918.86(g)	1917.71(f)(4)
Vest; High Visibility/Retro-reflective Material	1918.86(m)	1917.71(e)
Ship's Cargo Elevators	1918.87	1917.116
Subject Title From Part 1918	**29 CFR Part 1918**	**29 CFR Part 1917**

Subject Title From Part 1918	29 CFR Part 1918	29 CFR Part 1917
Log Operations	1918.88	1917.18
Handling Hazardous Cargo	1918.89	1917.22
Hazard Communication	1918.90	1918.28
Housekeeping	1918.91	1917.11
Housekeeping; Slippery Conditions	1918.91(b)	1917.12
Illumination	1918.92	1917.123
Hazardous Atmospheres and Substances	1918.93	1917.23
Ventilation and Atmospheric Conditions	1918.94	1917.23
Carbon Monoxide	1918.94(a)(1)	1917.24
Fumigants, Pesticides, Insecticides, etc.	1918.94(b) thru (f)	1917.25
Menhaden and Similar Fish; Handling	1918.94(f)	1917.73
Sanitation	1918.95	1917.127
Sanitation; Washing and Toilet Facilities	1918.95(a)(1)	1917.127(a)(1)
Maintenance and Repair Work (Operations)	1918.96	1917.158
Interference with Communications	1918.96(a)	1917.20
Machine Guarding	1918.96(e)	1917.151
First Aid and Lifesaving Facilities	1918.97	1917.26
Stretchers/Stokes Basket	1918.97(d)	1917.26(d)
Qualifications of Operators and Supervisory Training	1918.98	1917.27
Suddenly Incapacitating Medical Ailments	1918.98(a)(2)	1917.27(a)(2)
Supervisory Accident Prevention Proficiency	1918.98(b)	1917.27(b)
Retention of DOT Markings/Placards/Labels	1918.99	1917.29
Emergency Action Plans	1918.100	1917.30
Eye and Face Protection	1918.101	1917.91
Respiratory Protection	1918.102	1917.92
Head Protection	1918.103	1917.93
Foot Protection	1918.104	1917.94
Other Protective Measures	1918.105	1917.95
Protective Clothing	1918.105(a)	1917.95(a)
Personal Flotation Devices (PFDs)	1918.105(b)	1917.95(b)
Payment for Personal Protective Equipment (PPE)	1918.106	1917.96
Subject Title From Part 1918	**29 CFR Part 1918**	**29 CFR Part 1917**

APPENDIX E: SETTLEMENT AGREEMENT BETWEEN THE NATIONAL GRAIN AND FEED ASSOCIATION, INC., AND THE OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, U.S. DEPARTMENT OF LABOR

I. Background. The NGFA/OSHA Settlement Agreement is the result of both parties having executed and filed a stipulation of dismissal of case No. 83-1935 in the United States Court of Appeals for the District of Columbia Circuit. OSHA agreed to a settlement of NGFA's challenge to the marine terminal standard. In exchange for NGFA's withdrawal of its challenge, OSHA agreed to clarify and interpret certain provisions in the standard as set forth in the Settlement Agreement and distribute these clarifications and interpretations to all OSHA Regional Offices.

II. *Settlement of National Grain and Feed Association, Inc. v. OSHA, No. 83-1935 (D.C. Cir.)*

WHEREAS: OSHA and NGFA have discussed settlement of NGFA's challenge to OSHA's newly issued marine terminal standard. These discussions have concerned primarily OSHA's intentions concerning the applicability of the standard's provisions with respect to marine grain handling facilities.

THEREFORE: OSHA agrees to the following settlement of NGFA's challenge to the marine terminal standard: In exchange for NGFA's withdrawal of its challenge, OSHA will (a) clarify and interpret certain provisions in the standard as set forth below and (b) expeditiously distribute these clarifications and interpretations to all OSHA regional offices, in the form of a standards interpretation issued by the Directorate of Field Operations [now the Directorate of Enforcement Programs] and signed by the Assistant Secretary for Occupational Safety and Health. The clarifications contained in this settlement will be binding on OSHA enforcement personnel and cannot be changed unilaterally by OSHA. This settlement does not bar any employer from challenging any standard.

1. Provisions generally applicable or generally inapplicable as listed in Attachment A [Sections III, IV, and V below] to this Settlement Agreement, OSHA has identified provisions generally applicable and generally inapplicable at marine terminal grain elevators. It is extremely difficult for the Agency to address with absolute confidence applicability and non-applicability. Certain grain facilities may have operations that present the hazards addressed by standards listed as inapplicable. As a consequence, the characterizations in Attachment A must be viewed in general terms. Nonetheless, they do represent OSHA's best analysis of the applicability and non-applicability of the marine terminal standard to grain handling facilities, based in part upon NGFA's descriptions and characterizations of their members' structures and activities and in part on OSHA's judgments derived from the rulemaking record.

2. 29 CFR 1917.17(b): A sign instructing employees not to pass between railcars that are within ten feet of each other would fulfill the requirements of this paragraph.

3. 29 CFR 1917.17(d)(2) and (e): Opening a hopper door or discharge gate would not necessarily constitute being on, in, or under the railcar, and therefore, would not necessarily be covered by these paragraphs; the determination whether an employee is in, on, or under a railcar will depend on whether movement of the car could injure the employee; and when a railcar is part of a train of cars, wheels need not be chocked so long as the brake of the train is set.

4. 29 CFR 1917.17(f): This paragraph is inapplicable, because grain handling facilities do not use cars with unsecured and overhanging stakes, wire straps, banding, and similar objects.

5. 29 CFR 1917.17(1): This paragraph applies only to boxcar lifting and dumping operations, not to hopper-bottom cars. The operator of the lifting mechanism is the employee who is required to have an unobstructed view of the dumping operations.

6. 29 CFR 1917.25: The safety standards contained in 29 CFR 1910.272 will preempt the marine terminal standards that address the same hazards when 1910.272 is finally adopted. Until 1910.272 is finally adopted, pursuant to OSHA's Field Operations Manual, ch. 4, if compliance with proposed 29 CFR 1910.272 [See NOTE below] provides protection equal to that of 29 CFR 1917.25, an employer that complies with the proposal, rather than 29 CFR 1917.25, will incur no more than a *de minimis* citation. The areas in which the proposal is not equally protective are as follows:

   a. 29 CFR 1917.25 covers additional dangerous environments not addressed by the proposed 1910.272.

   b. 29 CFR 1917.25(b) requires that testing must be appropriate for the hazard and that only designated employees may conduct such tests. Proposed 1910.272 has no such requirement.

   c. 29 CFR 1917.25(c) requires employers to make available for a period of 30 days the results of all tests. Proposed 1910.272 has no such requirement.

   d. 29 CFR 1917.25(c) requires that only designated personnel may apply chemicals. Proposed 1910.272 has no such requirement.

   e. 29 CFR 1917.25(e) requires that only designated employees may enter hazardous atmospheres. Proposed 1910.272 has no such requirement.

   [NOTE: The standard for grain handling facilities, 29 CFR 1910.272, was promulgated on December 31, 1987, at Federal Register Volume 52, No. 251 (52 F.R. 49592) and became effective March 30, 1988, except for housekeeping provisions which were delayed by Federal Court Order until August 1988. March 8, 1996, amendments were added in Federal Register Volume 61, No. 147 (47 F.R. 9578) and became effective April 8, 1996].

7. 29 CFR 1917.27(a)(2): The limitations contained in this paragraph do not apply to a person operating a conveyor. This paragraph does not require an employer to conduct any examination of employees for the health concerns listed.

8. 29 CFR 1917.43(c)(3): Employers may rely on replacement parts manufacturers' specifications performance regarding strength and ratings.

9. 29 CFR 1917.43(d): An approved industrial truck suitable for a class II hazard will only be required in a situation in which a class II hazard can be identified at the time an industrial truck that has not been approved is being used. The presence of dust at a grain facility does not constitute a hazardous atmosphere requiring use of an approved industrial truck absent an explosion hazard.

10. 29 CFR 1917.44: Posting a sign will meet the requirements that an employer direct drivers to follow posted traffic rules, follow established routes, and honk the horn when approaching employees. Regular operating procedures in grain terminals may satisfy the requirement for establishing regular traffic routes where operations require trucks to line up in single file in a line from the entrance to the dumping station; where such a route is established to designate the route.

11. 29 CFR 1917.44(i): The twenty-foot requirement only applies between the truck that is dumping and the next truck in line, and a sign requiring twenty feet between trucks where employees are working is a sufficient direction to the drivers.

12. 29 CFR 1917.44(j): This paragraph may be satisfied by a sign which requires drivers to set their brakes before leaving their trucks.

13. 29 CFR 1917.48(a)(1): Only danger zones to which employees have access need be guarded. Danger zones are those areas, typically at the head and the tail of the conveyor and where the power train of the conveyor is located, where there are nip points in which employees might get stuck or pinched.

14. 29 CFR 1917.48(f): This paragraph does not require emergency stop controls continuously along a conveyor. Stop controls are required only where employees are exposed to hazards, and where there are no employees exposed or no hazard present there is no need for an emergency stop control.

15. 29 CFR 1917.48(g): This paragraph may be satisfied by the posting of a sign advising employees to keep away from the conveyor because it might start at any time.

16. 29 CFR 1917.49(a): The inspections required by this paragraph are not required where a spout or a chute does not have rigging and is permanently mounted in an area that does not expose employees to a hazard.

17. 29 CFR 1917.49(b): This paragraph applies only where an employee is exposed to a hazard at the receiving end of the grain.

18. 29 CFR 1917.49(d): This paragraph was intended to protect against a fall hazard and only applies to elevated hoppers where an employee might fall.

19. 29 CFR 1917.49(e): This paragraph is inapplicable during operations in which grain is directed down a chute, because during such operations, sideboards are not "necessary for the safety of employees," within the meaning of the paragraph.

20. 29 CFR 1917.49(f): This paragraph's reference to "chutes" does not include spouts.

21. 29 CFR 1917.49(g): This paragraph is inapplicable when grain is being directed down a chute, because grain is a "bulk commodity," within the meaning of the paragraph.

22. 29 CFR 1917.49(h) and (i): The safety standards contained in 29 CFR 1910.272 will preempt the marine terminal standards that address the same hazards when 1910.272 is finally adopted. Until 1910.272 is finally adopted, pursuant to OSHA's Field Operations Manual, Chapter 4, if compliance with proposed 29 CFR 1910.272 provides protection equal to that

provided by 29 CFR 1917.49(h) and (i), an employer that complies with the proposal, rather than 1917.49(h) and (i), will incur no more than a *de minimis* citation. The area in which the proposal is not equally protective is as follows: 29 CFR 1917.49(h)(1) and (i)(1) require that persons controlling the flow of cargo into the bin be notified of the entry of employees into the bin. Proposed 1910.272 has no such requirement.

[NOTE: The standard for grain handling facilities, 29 CFR 1910.272, was promulgated on December 31, 1987, at Federal Register Volume 52, No. 251 (52 F.R. 49592) and became effective March 30, 1988, except for housekeeping provisions which were delayed by Federal Court Order until August 1988. March 8, 1996, amendments were added in Federal Register Volume 61, No. 147 (47 F.R. 9578) and became effective April 8, 1996].

23. 29 CFR 1917.118: The specific language of this section exempts emergency ladders.

24. 29 CFR 1917.123: When employees pass through an area that is not illuminated, with no intention to perform any work, flashlights are sufficient supplemental lighting.

25. 29 CFR 1917.124: This section is inapplicable to grain handling facilities, because such facilities do not have dockboards (car and bridge plates) or ramps used as passages between levels and across openings.

26. 29 CFR 1917.153: This section does not apply during the use of portable spray painting apparatus that may be used in various locations throughout the terminal.

/S/ OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
Witness my hand and seal this day of October, 1984.
By: Judith N. Macaluso Assistant Counsel for Appellate Litigation

/S/ NATIONAL ASSOCIATION GRAIN AND FEED
Witness my hand and seal this day of October, 1984. By: Arent, Fox, Kintner, Plotkin and Kahn Stewart S. Manela Marc Fleischaker

III. Provisions Generally Inapplicable at Marine Terminal Grain Elevators

1917.13	Slinging
1917.14	Stacking of Cargo and Pallets
1917.15	Coopering
1917.17	Railroad Facilities; (a), (c), (d), (1), (f), (h), and (k)
1917.18	Log Handling
1917.22	Hazardous Cargo
1917.23	Hazardous Atmospheres and Substances
1917.41	House Falls
1917.43	Powered Industrial Trucks; (g) and (h)
1917.44	General Rules Applicable to Vehicles; (c), (k), (l), and (m)
1917.46	Crane Load and Limit Devices
1917.48	Conveyors; (b), (c), (d), and (e)
1917.49	Spouts, Chutes, Hoppers, Bins and Associated Equipment; (e) and (g)
1917.71	Terminals Handling Intermodal Containers or Roll on Roll off (Ro-Ro) Operations
1917.73	Terminals Handling Menhaden and Similar Species of Fish

1917.114	Cargo Doors
1917.115	Platforms and Skids
1917.124	Passage between Levels and Across Openings
1917.153	Spray painting

IV. Provisions Generally Applicable at Marine Terminal Grain Elevators

1917.11	Housekeeping
1917.12	Slippery Conditions
1917.16	Line Handling; (a) and (b)
1917.17	Railroad Facilities; (g), (i), (j), (m), (n), and (o)
1917.19	Movement of Barges and Railcars
1917.20	Interference with Communications
1917.21	Open Fires
1917.24	Carbon Monoxide
1917.26	First Aid and Lifesaving Facilities
1917.27	Personnel; (a)(1) and (b)
1917.42	Miscellaneous Auxiliary Gear
1917.43	Powered Industrial Trucks; (a), (b), (e), and (f)
1917.44	General Rules Applicable to Vehicles; (a), (b), (c), (d), (e), (f), (g), (h), (n), and (o)
1917.45	Cranes and Derricks
1917.47	Winches
1917.48	Conveyors; (h), (i), and (j)
1917.49	Spouts, Chutes, Hoppers, Bins, and Associated Equipment; (c), (j), (k), and (l)
1917.50	Certification of Marine Terminal Material Handling Devices
1917.51	Hand Tools
1917.70	General
1917.72	Grain Elevator Terminals
1917.91	Eye Protection
1917.92	Respiratory Protection
1917.93	Head Protection
1917.94	Foot Protection
1917.95	Other Protective Measures
1917.111	Maintenance and Load Limits
1917.112	Guarding of Edges
1917.113	Clearance Heights
1917.116	Elevators and Escalators
1917.117	Manlifts
1917.119	Portable Ladders
1917.120	Fixed Stairways
1917.121	Spiral Stairways
1917.122	Employee Exits
1917.126	River Banks
1917.127	Sanitation
1917.128	Signs and Marking
1917.151	Machine Guarding
1917.152	Welding, Cutting and Heating

1917.154	Compressed Air
1917.155	Air Receivers
1917.156	Fuel Handling and Storage
1917.157	Battery Charging and Changing
1917.158	Prohibited Operations

V. Provisions Applicable at Marine Terminal Grain Elevators That Have Been Clarified by OSHA

1917.17	Railroad Facilities; (b), (d)(2), and (e)(1)
1917.25	Fumigants, Pesticides, Insecticides and Hazardous Preservative
1917.27	Personnel; (a)(2)
1917.43	Powered Industrial Trucks; (c) and (d)
1917.44	General Rules Applicable to Vehicles; (i) and (j)
1917.48	Conveyors; (a), (f), and (g)
1917.49	Spouts, Chutes, Hoppers, Bins, & Associated Equipment; (a), (b), (d), (f), (h), and (i)
1917.118	Fixed Ladders
1917.123	Illumination

APPENDIX F: ANSWERS TO COMMON QUESTIONS REGARDING THE LONGSHORING AND MARINE TERMINALS FINAL RULES

This appendix consolidates OSHA interpretations related to longshoring and marine terminals that have been issued and remain valid, as of the date of this instruction. Interpretations previously issued by OSHA were reviewed to determine their current validity and accuracy. Interpretations, for which standard references have changed, have been updated to reflect the current standard reference.

Additionally, OSHA conducted Outreach Seminars on the revised *Longshoring* and *Marine Terminals* Standards that were published as a Final Rule on July 25, 1997. This Final Rule became effective on January 21, 1998. The Outreach Seminars were conducted in most major U.S. port areas and included participation by labor and management representatives from the marine cargo handling industry, OSHA, State, and other federal regulatory agencies. The questions that were frequently asked by Outreach Seminar participants, along with the answers provided by OSHA representatives, are included in this appendix.

OSHA requirements are set by statute, standards and regulations. Our interpretations explain these requirements and how they apply to particular circumstances, but they cannot create additional employer obligations. These responses constitute OSHA's interpretation of the requirements discussed. Note that the enforcement guidance may be affected by changes to OSHA rules. Also, from time to time OSHA updates its guidance in response to new information. To keep apprised of such developments, OSHA's web site can be consulted at http://www.osha.gov/.

Question 1: What directives have been cancelled or superseded by this or previously issued "Tool Shed" instructions?

Answer: The following documents have been cancelled or superseded by this or previously issued "Tool Shed" instructions:

> **CPL 02-00-066**, *Settlement Agreement Between the National Grain and Feed Association, Inc., and the Occupational Safety and Health Administration, U.S. Department of Labor*, July 15, 1985. (Superseded by this directive)
>
> **CPL 02-00-132**, *Longshoring and Marine Terminals "Tool Shed" Directive*, September 30, 2003. (Superseded by CPL 02-00-139, May 23, 2006)
>
> **CPL 02-00-139**, *Longshoring and Marine Terminals "Tool Shed" Directive*, May 23, 2006. (Superseded by this directive)
>
> **CPL 2-1.17**, *29 CFR 1918.32(b), Stowed Cargo and Temporary Landing Platforms – Application to Containers Stowed on the Decks of Vessels*, August 30, 1982. (Cancelled by CPL 02-00-132, September 30, 2003)
>
> **CPL 02-01-027 (CPL 2-1.27)**, *Focused Inspection Program for Intermodal Container Top Fall Protection*, May 12, 1998. (Cancelled by this directive)
>
> **CSP 01-01-020 (STP 2-1.141)**, *Servicing of Single Piece and Multi-Piece Rim Wheels at Marine Terminals*, December 2, 1987. (Cancelled by this directive)

PD # 100-15, *29 CFR 1918.65(b), Mousing of Screw Pin Shackles and the Meaning of 'Aloft'*, dated November 7, 1972. (Cancelled by CPL 02-00-132, September 30, 2003; incorporated into this Appendix – See Q&A #27)

STD 2-1.4A, *29 CFR 1918.74(a)(9), Crane Load Indicating Device*, November 2, 1979. (Cancelled by CPL 02-00-132, September 30, 2003)

STD 2-1.5A, *29 CFR Parts 1915, 1916, 1917 and 1918, Cranes and Derricks Covered by the Maritime Regulations*, November 2, 1979. (Cancelled by CPL 02-00-132, September 30, 2003)

STD 2-1.7, *Interpretation of 29 CFR 1918.74(a)(9)(viii)(d), Guidance on Requirements for Load Indicating Devices on Cranes*, October 30, 1978. (Cancelled by CPL 02-00-132, September 30, 2003)

STD 2-1.8, *Responsibility Under 29 CFR Part 1918 for Compliance Affecting Equipment Used, but not Owned by, or Under the Control of the Employer*, October 30, 1978. (Cancelled by CPL 02-00-132, September 30, 2003; incorporated into this Appendix – See Q&A #23)

STD 02-01-009 (STD 2-1.9), *Hazard Alert – Use of 4x29 Wire Rope as Cargo Runner (Hoisting Wire) for Loading/Discharging Cargo in the United States*, October 1, 1990. (Cancelled by this directive; incorporated into this Appendix – See Q&A #26)

STD 2.2, *29 CFR 1917.71 and 29 CFR 1918.85, Carriage of Automobiles in Containers*, July 3, 1989. (Cancelled by CPL 02-00-132, September 30, 2003)

STP 2-1.112, *Marine Terminals, 29 CFR Part 1917 – Final Rule*, September 9, 1983. (Cancelled by CPL 02-00-132, September 30, 2003)

Question 2: What marine cargo handling standards were affected by the Standards Improvement Project-III (SIP-III)?

Answer: The Standards Improvement Project-III is the third in a series of regulations intended to correct minor editorial or technical errors in OSHA regulations. Corrections are as follows:

29 CFR 1917, Marine Terminals: 1917.2 – Definitions – Added a definition for "Ship's stores."

29 CFR 1917, Marine Terminals: 1917.127(a)(iii) – Sanitation – Removed the word "warm" from air blowers.

29 CFR 1918, Longshoring: 1918.2 – Definitions – Added a definition for "Ship's stores."

29 CFR 1918, Longshoring: 1918.95(a)(iii) – Sanitation – Removed the word "warm" from air blowers.

Question 3: Are there any *Answers to Common Questions* that address personal protective equipment (PPE) payment in this directive?

Answer: Yes. *Answers to Common Questions* relating to PPE payment are located in Appendix A, Section III.D., of this directive.

Question 4: Do OSHA regulations, specifically 29 CFR 1910.24, apply to vessels?

Answer: While all of the provisions of 29 CFR 1910.24 apply to fixed industrial stairs on vessels, OSHA exercises its enforcement discretion with respect to the design specification provisions when inspecting permanent fixed stairs on vessels. Thus, OSHA will enforce all of the provisions of 29 CFR 1910.24 with respect to fixed industrial stairs that *are not* a permanent part of the vessel (i.e., stairs brought in and installed for use during vessel construction, repair or overhaul to support worker access to the vessel or within the vessel). In addition, OSHA will enforce 29 CFR 1910.24(a), (b), (f) and (h) with respect to fixed stairs that *are* a permanent part of the vessel, since these provisions address the condition and use of fixed stairs. However, if fixed stairs that *are* permanent parts of the vessel, comply with the design specifications discussed below, OSHA will not issue citations regarding design specification provisions in 29 CFR 1910.24(c), (d), (e), (g) and (i).

Design specifications for vessels (including fixed stairs) are addressed on U.S. "Inspected" vessels by Coast Guard regulations (46 CFR), on foreign flag vessels by foreign standards and various international vessel classification society rules (e.g., Bureau Veritas-France, Nippon Kaiji Kaokai-Japan, Lloyd's Register of Shipping-England), and on "Uninspected" vessels by a variety of standards, recommended guidelines, and established industry practice. Any hazardous conditions that employees are exposed to related to design will be evaluated using the standard, guidance or practice under which the vessel's fixed stairs were designed. For uninspected vessels and commercial uninspected fishing vessels, OSHA regulations are applicable to the working conditions of all workers including crew members as detailed in OSHA Instruction CPL 02-01-047, *OSHA Authority Over Vessels and Facilities on or Adjacent to U.S. Navigable Waters and the Outer Continental Shelf (OCS)*, February 22, 2010.

Question 5: Is it true that the 29 CFR Part 1917 Standard may apply to operations beyond the outer gate of the terminal?

Answer: 29 CFR Part 1917, *Marine Terminals* Standard, may apply to areas outside the terminal gate provided that those adjacent areas and structures are associated with the primary movement of cargo or materials from vessel to shore, or shore to vessel. This includes structures which are devoted to receiving, handling, holding, consolidation, and loading or delivery of waterborne shipments or passengers. It also includes areas devoted to the maintenance of the terminal or equipment used in the terminal. Production or manufacturing areas having their own docking facilities and located at a marine terminal are excluded from coverage, as are storage facilities directly associated with those productions or manufacturing areas. (See *Empire Company, Inc. v. OSHRC*, 136 F.3d 873 (1st Cir. 1998)).

Question 6: Who has jurisdiction at a "Designated Waterfront Facility" for the movement of cargo, the U.S. Coast Guard or OSHA?

Answer: Under Section 4(b)(1) of the OSH Act, OSHA has no authority over a working condition if another federal agency has exercised statutory authority over that working condition. Pursuant to 33 U.S.C. Section 1231, a provision of the Ports and Waterways Safety Act, the Coast Guard has promulgated regulations (33 CFR Part 126) dealing with working conditions for the loading and discharging of vessels at "designated waterfront facilities" involving the handling and storage of "dangerous cargo," "designated dangerous cargo," or "cargo of a particular hazard."

Further, pursuant to this same section, the Coast Guard has promulgated regulations (33 CFR Part 154) for working conditions involving facilities capable of transferring oil or other hazardous liquids or gases, *in bulk*, to or from a vessel (See 29 CFR Part 1917.1(a)(1)(i)). If the cargo handled at the "designated waterfront facility" is of the type specified in these Coast Guard regulations (33 CFR Parts 126 and 154), then OSHA authority is preempted with respect to those hazards addressed by those regulations (e.g., fire, explosion and toxic hazards).

NOTE: Before making any determination concerning these jurisdictional issues, CSHOs should consult with OSHA's National Office (Directorate of Enforcement Programs; Office of Maritime Enforcement). It is noted that OSHA is preempted only at "designated waterfront facilities" used solely for operations involving the bulk storage, handling and transfer of liquids and gases or cargo listed in 33 CFR Part 126 or Part 154; any other working conditions at the facility are subject to OSHA regulation (such as activities related to production, manufacturing, construction, ship repair including tank cleaning operations, and the movement of general cargo). "In bulk" is defined by the U. S. Coast Guard as 250 barrels or more, where a barrel holds 42 U.S. gallons (i.e., 250 barrels = 10,500 U.S. gallons).

Question 7: If a product that is imported by sea and is placarded as a marine pollutant (Class 9), is stored in a warehouse in non-bulk packaging holding not more than 400 kg (882 lbs), and is going to be transported by motor vehicle, is it required to continue to be placarded?

Answer: The labeling of hazardous cargo is regulated by the U.S. Department of Transportation. OSHA standards are very clear about the retention of those labels, placards, and markings. OSHA's 29 CFR 1917.29(a), which applies to marine terminals, provides: "Any employer who receives a package of hazardous material which is required to be marked, labeled or placarded in accordance with the U.S. Department of Transportation's Hazardous Materials Regulations (49 CFR Parts 171 through 180) shall retain those markings, labels and placards on the package until the packaging is sufficiently cleaned of residue and purged of vapors to remove any potential hazards." If the product is stored in a warehouse outside a marine terminal, the applicable standard is 29 CFR 1910.1201, which has the same language.

When the U.S. Department of Transportation hazmat regulations (49 CFR 171.4) no longer require hazardous cargo placarding, as in your situation, due to a change of the mode of transportation, OSHA requires compliance with the Hazard Communication Standard, 29 CFR 1910.1200. Specifically, the following provisions in 29 CFR 1910.1200(b)(4) would apply in your situation:

"In work operations where employees only handle chemicals in sealed containers which are not opened under normal conditions of use (such as are found in marine cargo handling, warehousing, or retail sales), this section applies to these operations only as follows:

(i) Employers shall ensure that labels on incoming containers of hazardous chemicals are not removed or defaced;

(ii) Employers shall maintain copies of any material safety data sheets that are received with incoming shipments of the sealed containers of hazardous chemicals, shall obtain a material safety data sheet as soon as possible for sealed containers of hazardous chemicals received without a material safety data sheet if an employee requests the material safety data sheet, and shall ensure that the material safety data sheets are readily accessible during each work shift to employees when they are in their work area(s); and,

(iii) Employers shall ensure that employees are provided with information and training in accordance with paragraph (h) of this section (except for the location and availability of the written hazard communication program under paragraph (h)(2)(iii) of this section), to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container."

Question 8: Is the foot of the gangway the point of separation between the 29 CFR Part 1917 *Marine Terminals* Standard and the 29 CFR Part 1918 *Longshoring* Standard?

Answer: The longshoring rule applies to all activities related to cargo handling aboard a vessel, and the gangway is considered to be part of the vessel. Therefore, when an employee steps onto the foot of the gangway, 29 CFR Part 1918 applies. Conversely, when an employee steps onto the pier or dock from the gangway, 29 CFR Part 1917 applies. Shore-to-vessel/vessel-to-shore cargo transfer and handling operations accomplished shore-side are covered by the *Marine Terminals* Standard (29 CFR Part 1917).

Question 9: Does the location of the crane being used to load or discharge a vessel determine which standard (29 CFR Part 1917 or 29 CFR Part 1918) applies for operations pertaining to that crane?

Answer: For shore-based cranes the *Marine Terminals* Standard (29 CFR Part 1917) applies, including all lifting device-specific aspects of such transfers. For cranes located on a vessel the *Longshoring* Standard (29 CFR Part 1918) applies, including all lifting device-specific aspects of such transfers.

Question 10: Which standard is applicable to an employee standing on top of a container aboard a ship when the employee is attached to a shore-based crane's spreader as part of a fall arrest system?

Answer: As soon as the employee steps off of the spreader and onto the containers, the 29 CFR Part 1918 Standard is applicable. When the employee is on the spreader (i.e., cage or guarded riding platform), the 29 CFR Part 1917 Standard is applicable.

Question 11: A "loci" is a piece of powered equipment that pushes or pulls train cars along the tracks in a marine terminal. A wide variety of "loci" vehicles are in use from older small yard type locomotives, to newer steel and auxiliary rubber tire spotting engines that can drive onto and off of the tracks. Are "loci" vehicles considered to be powered industrial trucks under 29 CFR Part 1917, and, if so, what training requirements apply for "loci" operators?

Answer: The "loci" vehicles are powered industrial trucks covered under 29 CFR 1917.43(a) which states, "*Applicability*. This section applies to every type of powered industrial truck used for material and equipment handling within a marine terminal." 29 CFR 1917.1(a)(2) lists the 29 CFR Part 1910 Standards that apply to marine terminals and includes (under 29 CFR 1917.1(a)(2)(xiv)) 29 CFR 1910.178(l), the requirements for powered industrial truck operator training. Therefore, "loci" vehicle operators must meet the general requirements of 29 CFR 1917.27(a)(1), *Qualifications of machinery operators*, and the specific training requirements for powered industrial trucks in 29 CFR 1910.178(l) that apply to "loci" vehicles.

Additionally, it is noted that 29 CFR 1910.178(a)(2), which requires that newly acquired powered industrial trucks meet the requirements of the American National Standards Institute (ANSI) B56.1-

1969, was not adopted into OSHA's *Marine Terminals* Standard under 29 CFR 1917.1(a)(2). Therefore, powered industrial trucks operated in the marine cargo handling industry are covered by 29 CFR 1917.43, *Powered Industrial Trucks*, which does not require compliance with ANSI B56.1-1969.

Question 12: What regulations, 29 CFR 1917.45 *Cranes and derricks*, or 29 CFR 1917.120 *Fixed stairways*, apply to steps and stairways of container gantry cranes?

Answer: Stairways on cranes that are an integral part of the machinery are exempted from the fixed stairway regulations of 29 CFR 1917.120. According to the definition at 29 CFR 1917.120(a), "Fixed stairway means interior and exterior stairs serving machinery, tanks and equipment, and stairs to and from floors, platforms or pits. The term does not apply to stairs intended only for fire exit purposes, to articulated stairs (the angle of which changes with the rise and fall of the base support) or to stairs forming an integral part of machinery." The stairs on a container gantry crane are an integral part of the machinery. The OSHA standard that applies to marine terminal cranes is 29 CFR 1917.45, and 29 CFR 1917.45(f)(4) specifically addresses crane access.

Question 13: 29 CFR 1917.45(e)(2) states, "Crane hooks shall be latched or otherwise secured to prevent accidental load disengagement." Are all crane hooks required to have safety latches?

Answer: 29 CFR 1917.45(e)(2) requires that crane hooks be latched or otherwise secured to prevent accidental load disengagement. The longshoring regulations do not require safety latches on hooks for ship's gear. Section 29 CFR 1918.81(b) does, however, require handling bridles which remain attached to the hoisting gear during successive draft picks to be attached by shackles or some other positive means to prevent accidental disengagement.

Question 14: 29 CFR 1917.45(f)(1)(ii) states, "After October 3, 1984, overhead bridge and container gantry crane operating control levers shall be self-centering so that they will automatically move to the "off" position when the operator releases the control." Are all cranes required to have self-centering controls that automatically move to the "off" position when the operator releases the control?

Answer: This requirement only applies to shore-based overhead bridge and gantry cranes involved in cargo handling operations, not all cranes.

Question 15: What are the requirements, including tying off and PFD's, when hoisting personnel in a lifting device:

A. Since the barge is floating in the river should we treat the personnel lift, once we clear the edge of the dock, as working over water when using the personnel lifting device?

Answer: 29 CFR 1917.45(j), *Protection for employees being hoisted,* applies from the time employees are hoisted by the crane until they step off the personnel lifting device and onto the vessel, whether over the water or not. Where the crane is located, on land or on the vessel, determines which regulations apply.

B. Once the personnel lifting device clears the edge of the dock, even though it is over a barge, should the employees be wearing the U.S. Coast Guard approved life jacket and not be tied off to the personnel lifting device as required in 29 CFR 1926.550(g)(6)(vii)?

Answer: Employees are not required to wear life jackets Personal Flotation Devices (PFD's) or be tied off when being hoisted by personnel lifting devices under 29 CFR 1917.45(j). This is because employee fall protection is provided by the guardrails of the personnel lifting device. However, after being transferred to the barge, employers shall ensure that employees who are not protected from falling into the water by railings, the bulwark (if any), or other barriers, while working on the barge, are required to be provided with and wear the appropriate U.S. Coast Guard PFD as per 29 CFR 1918.105(b).

In addition, in your letter you indicated that your employees also access the barge by "...fixed ladders attached to the Shipping Dock or portable ladders." This work activity is addressed by §1918.26(b). Also, OSHA has published a fact sheet titled *Marine Terminal Fall Protection for Personnel Platforms*, it can be found at the following web site: http://osha.gov/OshDoc/data_General_Facts/fact_personnel_cage_fall_protection.html

Question 16: 29 CFR 1917.50 *Certification of marine terminal material handling devices*, paragraph (a) states, "The employer shall not use any material handling device listed in paragraph (c) of this section until he has ascertained that the device has been certified, as evidenced by current and valid documents attesting to compliance with the requirements of paragraph (b) of this section." Does OSHA require cranes at construction sites to be certificated?

Answer: There are no Federal OSHA regulations currently requiring the certification of cranes, derricks, or other material handling devices used solely in construction operations (covered under 29 CFR Part 1926), or used solely in general industry operations (covered under 29 CFR Part 1910). The owner must, however, maintain a record of inspections.

NOTE: Certification in the marine cargo handling industry refers to the certification of material handling devices. The construction regulations require the certification of crane and derrick operators. (See 29 CFR 1926.1400 *Cranes and Derricks in Construction*).

Question 17: What are the allowances for a single cylinder of acetylene and a single cylinder of oxygen to be next to each other under the following scenarios in a marine terminal or on a vessel?

A. Would a single cylinder of oxygen and a single cylinder of acetylene chained side by side against a vertical shop wall and available for periodic use with regulators detached and protective caps installed be a violation of 1917.152(d)(1)(xvi)?

Answer: A single cylinder of acetylene and a single cylinder of oxygen chained to a wall, with protective caps on and available for periodic use, would not be a violation of 29 CFR 1917.152(d)(1)(xvi). 29 CFR 1917.152(d)(1)(xvi) pertains to cylinders that are being stored.

B. Would a single cylinder of oxygen and a single cylinder of acetylene stored on a cart with the regulators attached in a storage container be a violation under the Marine Terminals Standard?

Answer: The question refers to a single cylinder of acetylene and a single cylinder of oxygen with regulators attached, which implies they are available for periodic use. The answer is the

same as the answer to question A; this would not be a violation of 29 CFR 1917.152(d)(1)(xvi).

C. **What are the rules regarding the placement of an oxygen cylinder next to an acetylene cylinder, either regulator or protective cap attached, while aboard a vessel?**

Answer: The storage of oxygen and acetylene cylinders is not specifically addressed in OSHA's regulations that apply to cargo handling on the vessel, 29 CFR Part 1918, *Safety and Health Regulations for Longshoring*. Generally, welding is not performed by workers handling cargo on a vessel. The storage of oxygen and acetylene cylinders associated with a vessel repair is regulated by 29 CFR Part 1915, *Occupational Safety and Health Standards for Shipyard Employment.* If the handling or storage of such cylinders on a vessel was actually related to a longshoring operation, an employer could be cited under OSHA's General Duty Clause, citing recognized OSHA regulations such as 29 CFR Part 1910 Subpart Q – *Welding, Cutting, and Brazing* or recognized industry practices.

Question 18: 29 CFR 1918.2 *Definitions* states, "Fall Hazard means the following situations: (1) Whenever employees are working within three feet (0.91 m) of the unprotected edge of a work surface..." What does "within three feet" mean? Is it the employee's center of gravity?

Answer: No. "Within three feet" does not refer to the employee's center of gravity. It means that, when any part of an employee's body, including extremities, comes within three feet (0.91 m) of an unprotected edge, a fall hazard exists.

Question 19: Are there safety rules or regulations outlining the safety of personnel while using rolling gangways?

Answer: Gangways are covered by OSHA regulations for longshoring operations under 29 CFR Part 1918, Subpart C – *Gangways and Other Means of Access*.

The following documents contain useful safety and design information pertaining to rolling gangways on vessels:

- International Labour Organization (ILO) Publication – *ILO Code of Practice, "Safety and Health in Ports," 2005-Section 3.4, Shore Side Access to Ships*;
- Det Norske Veritas (DNV) Standard – NS 6249; and
- International Standards Organization – ISO 5488.

Question 20: Prior to the changes to the *Longshoring* Standard on July 25, 1997, 29 CFR 1918.32(b) applied to working on top of containers. Does this rule still apply to container top safety?

Answer: 29 CFR 1918.32(b) was revised to address technology and work practice changes since OSHA's original *Longshoring* Standard was adopted. This paragraph does not apply to employees working on top of intermodal containers, whether above or below deck, because such work is now covered by 29 CFR 1918.85(j), *Fall protection*. Section 29 CFR 1918.32(b) applies when employees are working *non-containerized cargo* and are exposed to falls of more than eight feet (2.4 m) as defined in the term "fall hazard." The term "fall hazard" is defined in the definitions section (29

CFR 1918.2). It requires that the edge of the working surface be guarded by a safety net or that other means of fall protection (such as guardrails or fall arrest systems) be used to prevent employee injury.

NOTE: It is essential that employers satisfy the intent of this provision and do not merely appear to comply with it. Safety nets that are rigged are often allowed to become very slack, and have in some cases been secured only at their top ends. The improper rigging of safety nets compromises or even removes the protection provided to falling employees. This paragraph distinguishes between the purpose and use of vertical safety nets, which rise at right angles at the perimeter of a work surface to prevent employees from falling, and trapeze nets, which are designed to be placed horizontally below a raised work surface to prevent falling employees from striking the surface below.

Question 21: Employees often encounter fall hazards while working general cargo in the holds of break-bulk ships. When there is no feasible way to provide fall protection as required by 29 CFR 1918.32(b) (e.g., rig safety nets or lines), can spotters or signal persons be used to warn employees when they are approaching the edge?

Answer: When there is no feasible way to rig physical barriers or provide fall protection, as required by 29 CFR 1918.32(b) when working non-containerized cargo (i.e., break bulk or general cargo), employers must change the operational procedure and do everything possible to minimize the hazard. Spotters may be the only feasible answer in certain situations. Employers must ensure that when using perimeter monitors (i.e., spotters), a person is to be specifically designated to perform that function, and employees must be aware of who is the designated signal person(s) and what signal system will be used.

Question 22: The covering of hatches aboard a vessel is addressed by 29 CFR 1918.43(j). Under what conditions can hatches aboard ship, be covered by means other than hatch covers and night tents?

Answer: 29 CFR 1918.43(j) requires that hatch covers or night tents be used to cover hatches, and that any covering that only partially covers a hatch, such as alternating hatch covers or dunnage strips, may not be covered by a tarpaulin. The reason for this prohibition is that employees could fall through the tarpaulin and partial covering. However, 29 CFR 1918.43(j) was changed to allow for an *exception*: tarpaulins may be used to cover an open or only partially covered hatch, if they are used to reduce dust during bulk cargo loading and if *positive means*, such as barricades with placards, have been taken to ensure that employees do not walk on the tarpaulin. Verbal warnings, instructions or placards alone will not satisfy this provision.

Question 23: 29 CFR 1918.51(b) *General Requirements (vessel's cargo handling gear)* states, "Any gear that is found unsafe shall not be used until it is made safe." 29 CFR 1918.55(a) *Cranes (forming part of a vessel's permanent equipment)* states, "Cranes with a visible or known defect that affects safe operation shall not be used." Who has responsibility under 29 CFR Part 1918 for compliance affecting equipment used, but not owned by, or under the control of the employer?

Answer: If equipment on a vessel or other equipment or facilities to be used by an employer, but not owned by the employer or under his/her control, does not meet the requirements of 29 CFR Part 1918, it is the responsibility of the employer not to permit his/her employees to utilize such equipment or facilities. While it is not the responsibility of the employer to repair defective equipment not under his/her control, it is the employer's duty to only use equipment that meets the

requirements of 29 CFR Part 1918.

Question 24: 29 CFR 1918.55(c)(2) and 29 CFR 1917.45(g)(11) state, "Limit switch bypass systems shall be secured during all cargo operations. Such bypass systems shall not be used except in an emergency or during non-cargo handling situations such as stowing cranes or derricks or during maintenance and repairs." What does OSHA mean by emergency? Are there any additional details regarding the use of bypass systems? Does readjustment of crane limit switches during cargo operations constitute using the bypass system?

Answer: Emergency, in the context of marine cargo handling operations, means an unexpected situation or sudden occurrence of a serious and urgent nature that demands immediate action; for example, if an employer needed to reach a seriously injured employee. It does not mean finishing the loading or discharge of cargo from the ship at a specific time or any attempt to complete a cargo handling operation on schedule.

29 CFR 1918.55(c)(2) requires that limit switch bypass systems must be secured during all cargo operations (i.e., cannot bypass the limit switch(es)). An example of a limit switch is the anti-two-blocking device. Limit switches *cannot be* safely *bypassed* during *cargo operations*. However, there are three specific *non-cargo handling operations* situations where such bypass systems may be activated: during an emergency, while performing repairs, or when stowing cranes or derricks. To provide additional safeguards, anytime a limit switch is bypassed, it must be done under the direction of an officer of the vessel. Similar provisions are applicable to shore-based cranes in the final rule for marine terminals, 29 CFR 1917.45(g)(11).

There is one unique shore-based situation, where the limit switches of cranes can be *readjusted* during cargo handling operations without an adverse impact on worker safety. Specifically, when a container ship with an unusually high deck load causes the upper limit switches to activate before the top tier of containers can be worked, the limit switches can be readjusted if the margin of safety provides enough extra height to allow readjustment. While *readjustment of the limit switch may be allowable* under these narrow circumstances, *bypassing the limit switch is* ***not***. To provide additional safeguards, readjusting limit switches may only be done under the direction of a crane mechanic. The language regarding adjustments of limit switches is in 29 CFR 1917.45(g)(11).

Question 25: 29 CFR 1918.62(g)(1) and 29 CFR 1917.42(g)(1) state, "Slings and nets or other combinations of more than one piece of synthetic webbing assembled and used as a single unit (synthetic web slings) shall not be used to hoist loads in excess of the sling's rated capacity." How is the safe working load for synthetic fiber rope slings determined? What is the minimum safety factor allowed for synthetic fiber rope and web slings?

Answer: Determination of the safe working load for synthetic fiber rope slings is based on the following criteria:

- Unless otherwise recommended by the manufacturer, when synthetic fiber ropes are substituted for fiber ropes of less than three inches (7.62 cm) in circumference, the synthetic fiber rope shall be of equal size, as required by 29 CFR 1918.62(d)(3)(i) and 29 CFR 1917.42(g)(1).

- Unless otherwise recommended by the manufacturer, when synthetic fiber ropes are substituted for fiber ropes of three inches (7.62 cm) or more in circumference, the size of the

synthetic rope shall be determined by the formula provided in 29 CFR 1918.62(d)(3)(i) and 29 CFR 1917.42(g)(1).

For both of these criteria a safety factor greater than 5 is ensured since the breaking strength of the synthetic rope is more than the breaking strength of the size of manila rope that would otherwise be required.

NOTE: For longshoring, 29 CFR 1918.62(d)(2), if the manufacturer's recommended safe working load ratings and use ratings are not available, Tables 3A and 3B of Appendix II to 29 CFR Part 1918 shall be used to determine the safe working load of synthetic fiber rope and of synthetic rope slings.

Question 26: Did OSHA publish a Hazard Alert on the use of 4 x 29 wire rope used as hoisting wire for handling cargo?

Answer: Yes, OSHA published Instruction STD 02-01-009 dated October 1, 1990, warning of the danger of using 4 x 29 wire rope as a hoisting wire under certain conditions. The Instruction has been deleted with the issuance of this Directive because it is no longer thought to be an issue. In the late 1980s several foreign flag vessels loading/unloading cargo in the United States experienced the failure of 4 x 29 wire rope. OSHA researched the issue and determined that the use of 4 x 29 wire rope required sheaves of a large diameter (more than 70 inches (177.8 cm)) to prevent the internal wire rope stresses that caused the wire rope to fail. Such large diameter sheaves are not practical for use on cargo handling gear on vessels. Also the Canadian Coast Guard issued a Safety Bulletin prohibiting the use of 4 x 29 wire rope to handle cargo.

While 4 x 29 wire rope has not been found on cargo handling gear since the mid-1990s, CSHOs should remain aware of the hazard. This 4 x 29 wire rope is a galvanized 32 mm (1-1/4-inch) four strand, left-hand regular lay. Safe working load is 34,500 pounds. The component wires are as follows: 1 core wire - 4.0 mm (.157 in), 7 inner wires - 3.0 mm (.118 in), 7 filler wires - 1.4 mm (.055 in), and 14 outer wires - 2.3 mm (.090 in). Fatigue failure of the 4 mm and 3 mm inner component wire occur prior to failure of the outside wires of the strand, which are of smaller diameter and do not fail as easily. Therefore, the external appearance of the 4 x 29 wire rope is satisfactory, even though the strength of the wire is seriously reduced due to the early failure of the inner wires. It was determined that:

A. Failure occurred due to 4 x 29 inner wire fatigue fractures.

B. The sheaves, rollers, drums and blocks used were too small (26-34 inches in diameter) for use with 4 x 29 wire rope.

C. Failure mode is due to a lack of 4 x 29 wire rope flexibility.

D. This 4 x 29 wire rope is very difficult to inspect in the field by employers and stevedores.

Question 27: 29 CFR 1918.62(i)(2) states, "Screw pin shackles provided by the employer and used aloft, except in cargo hook assemblies, shall have their pins positively secured." What is the meaning of "aloft?"

Answer: The intent of 29 CFR 1918.62(i)(2) is to require mousing (or seizing) of screw pin shackles when the shackle is situated in an inaccessible place, that is, aloft. Aloft, in the maritime industry means on or in the higher rigging of the ship. This regulation is not to be applied to the cargo hook

assembly or to any stevedoring or other gear which may be hanging from the hook or from the falls.

Question 28: 29 CFR 1918.65(d)(4) and 29 CFR 1917.43(f)(3) require that after July 26, 1999, bulk cargo-moving vehicles be equipped with rollover protection. Can previously used equipment which cannot be fitted with rollover protection continue to be used?

Answer: No. The use of equipment without rollover protection would be a violation of 29 CFR 1918.65(d)(4) or 29 CFR 1917.43(f)(3).

Question 29: What is an "approved truck" under 29 CFR 1918.65(e) and 29 CFR 1917.43(d), and can the 29 CFR 1910.178 *Powered industrial trucks* standard be applied?

Answer: As defined in 29 CFR 1918.65(e)(1) and 29 CFR 1917.43(d)(1), an approved power-operated industrial truck is one listed as approved for the intended use by a nationally recognized testing laboratory (See 29 CFR 1910.7). 29 CFR 1918.65(e)(2) and 29 CFR 1917.43(d)(2) require such trucks to bear a label or other indication that the truck is so approved. 29 CFR 1918.65(e)(3) and 29 CFR 1917.43(d)(3) require that in hazardous atmospheres only approved trucks may be used. In making a compliance determination of the applicable industrial truck designation (e.g., D, DS, DY, E, ES, EE, EX, G, GS, LP, LPS) for the intended use under 29 CFR 1918.65(e) and 29 CFR 1917.43(d), 29 CFR 1910.178 *Powered industrial trucks* will be utilized.

Question 30: 29 CFR 1918.65(f) and 29 CFR 1917.43(c). A number of facilities in the marine cargo handling industry operate powered industrial trucks with audible backup alarms inside vessel holds. Does OSHA allow the installation of a strobe light in addition to an audible backup alarm on a powered industrial truck in the marine cargo handling industry?

Answer: 29 CFR 1918.65(b)(1) and 29 CFR 1917.43(b)(1) prohibit modifications that might affect the vehicle's capacity or safety without either the manufacturer's prior written approval or the written approval of a professional engineer experienced with the equipment who has consulted with the manufacturer, if available. Therefore, provided the approval is obtained in accordance with these provisions, the installation of a strobe light on a powered industrial truck would be allowed. While the question does not contemplate the removal/disabling of audible backup alarms, 29 CFR 1918.65(f) and 29 CFR 1917.43(c)(5) prohibit safety devices from being removed or disabled absent the written approval discussed above.

Question 31: 29 CFR 1918.66(b)(3)(ii) and 29 CFR 1917.45(d)(2) state, "No crane or derrick having a visible or known defect that affects safe operation shall be used." Can structural discontinuities or damage on cargo handling gear, such as a crane or derrick boom, be safely concealed by covering the damaged areas with a filler material such as Bondo®?

Answer: No. Concealing structural damage on cargo handling gear constitutes an extremely serious and unsafe occupational hazard, and is an unacceptable practice.

Question 32: What regulations apply to the protection of personnel being hoisted on a guarded riding platform in the marine cargo handling industry, 29 CFR 1918.66(c), 29 CFR 1917.45, or 29 CFR 1918.85? Do the requirements of 29 CFR 1918.85(j)(1)(i) and (ii) prohibit employers from assigning longshore workers to perform work on top of containers in the ordinary course of production?

Answer: The OSHA standard that applies when employees are being hoisted in a guarded riding

platform by a shore-based crane is 29 CFR 1917.45(j). The *Longshoring* Standard, 29 CFR 1918.66(c), applies when hoisting personnel with a crane that is placed on a vessel. The other standard referenced, 29 CFR 1918.85, does not apply to the hoisting of employees; it does apply to fall protection systems when employees are working outside of the hoisting platform on top of intermodal containers aboard vessels.

The requirements of 29 CFR 1918.85(j)(1)(i) and (ii) restrict but do not prohibit employers from assigning longshore workers to perform work on top of intermodal containers. Employers may assign employees to work on top of intermodal containers to perform a necessary function that cannot be eliminated by the use of positive container securing devices. Under the conditions of this exception, each employee working outside of the guarded platform on top of an intermodal container must be protected from fall hazards by a fall protection system meeting the requirements of 29 CFR 1918.85(k).

Question 33: 29 CFR 1918.66(d)(3) and 29 CFR 1917.45(k)(3) state, "Any defects found during such inspections which may create a safety hazard shall be corrected before further equipment use. Repairs shall be performed only by designated persons." What are the acceptable methods for reconditioning wire rope sheaves on cranes and derricks? Can defective sheaves be reconditioned using portable hand tools?

Answer: For sheave grooves that can be reconditioned (such as iron, steel, and manganese steel), such reconditioning must be performed within the design tolerances allowed for by the manufacturer. The method of reconditioning must provide for the proper groove size, correct groove contour, proper surface condition, and consistent roundness (concentricity) of the sheave. Turning sheave grooves (re-machining) is an acceptable method of reconditioning, provided that the original manufacturer's repair procedures and specifications are followed. Grinding defective sheave grooves with portable hand tools is not an acceptable method of reconditioning sheaves.

Question 34: When conducting a visual inspection of a sheave on a crane or derrick, how is this done and what needs to be looked at? Should the wire rope also be looked at during the visual inspection of the sheaves? When should a sheave be replaced?

Answer: If a visual inspection of a sheave on a crane or derrick identifies a condition that has not been previously assessed by the employer, such as corrugation or an unusual wear pattern on the sheave, then a sheave gauge (groove gauge) must be used to accurately assess the wear pattern and the amount of wear to the sheave. Although corrugation (in and of itself as a surface condition) may only cause accelerated wear of the wire rope, it is an indicator that more significant and possibly unsafe sheave component wear conditions may be present.

When excessive component wear is found to exist on a sheave, particular attention should be given to inspecting for distortion and damage to the core of the wire rope. For instance, a wear pattern that is deep and narrow (resulting in a smaller diameter groove) can pinch the wire rope, cause permanent wire rope distortion, and crush the wire rope core. Also, a sheave wear pattern that forms a progressively larger groove diameter may provide insufficient groove contour support (groove diameter too large for the wire rope diameter), cause the wire rope to flatten and become distorted, and result in an increase of the bending fatigue of the wire rope.

Core failure can be checked by diameter measurement (diameter is reduced with core deterioration), or by length of lay measurement (core damage can result in an increase in lay length). Wire ropes that do not meet applicable requirements must be immediately removed from service. A sheave with

excessive component wear must be replaced or reconditioned when the wire rope is replaced.

Question 35: Under what conditions is a cargo handling crane used in longshoring operations, 29 CFR 1918.66(f), or marine terminals, 29 CFR 1917.46, exempt from the requirements for a load indicating device (LID)? Are all cranes and derricks used to handle cargo in a marine terminal required to have load indicating devices (LIDs) as required by 29 CFR 1917.46? Specifically what type of certification is required by 29 CFR 1918.11 for cranes which are permanently mounted on a barge and used in longshoring operations?

Answer: For longshoring operations, 29 CFR 1918.66(f) addresses LID requirements for cranes other than vessel's gear. Cranes may be required to have a LID, derricks are not. Any crane, other than vessel's gear, used in longshoring operations, including barge-mounted cranes, may be required by 29 CFR 1918.66(f) to have a LID. 29 CFR 1918.66(f) LID requirements do not apply to cranes and derricks forming part of a vessel's permanent equipment.

For marine terminals, 29 CFR 1917.46 addresses LID requirements for cranes. Cranes may be required to have a LID; derricks are not. Any crane at a marine terminal that is used to move or handle cargo may be required by 29 CFR 1917.46 to have a LID.

Both 29 CFR 1918.66(f)(1)(viii) and 29 CFR 1917.46(a)(1)(viii) requirements for LIDs do not apply to:

- Trolley equipped bridge type or overhead type cranes used to handle containers;
- While handling bulk commodities or cargoes by means of clamshell bucket or magnet; and
- While used to handle or hold hoses in connection with the transfer of bulk liquids or other hose handled products.

Both 29 CFR 1918.66(f)(1)(viii)(D) and 29 CFR 1917.46(a)(1)(viii)(D) provide an exception for cranes that must otherwise meet the LID requirements, if *all of the following conditions are met*:

- The crane must be used exclusively to handle cargo or equipment, the total actual gross weight of which is known by means of marking of the unit or units hoisted;
- Such total actual gross weight must never exceed 11,200 pounds; and
- The load is less than the rated capacity of the crane at the maximum outreach that is possible at the time.

Barge-mounted cranes used to move cargo during longshoring operations must comply with the certification requirements of 29 CFR 1918.11. Specific detailed guidance is available in CPL 02-01-039, *Enforcement of Cargo Gear Regulations and the Requirements for Gear Certification in the Maritime Program*, March 24, 2003.

Question 36: 29 CFR 1918.69, *Tools*, and 29 CFR 1917.51, *Hand Tools*, do not appear to cover guards on portable grinders. Are guards required on portable grinders?

Answer: Guards on portable grinders are not covered in 29 CFR 1918.69, *Tools*, or 29 CFR 1917.51,

Hand Tools; however, the lack of a guard could be grounds for a General Duty Clause violation. Portable hand held tools are required to be maintained in safe operating condition, and employers may not permit the use of visibly unsafe tools. All tools must be equipped with switches of a type that must be manually held in the "ON" position. Guards are specifically required on portable hand held circular saws. (See OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM),* April 22, 2011)

Question 37: 29 CFR 1918.81, *Slinging*, paragraph (b) states, "Cargo handling bridles, such as pallet bridles, which are to remain attached to the hoisting gear while hoisting successive drafts, shall be attached by shackles, or other positive means shall be taken to prevent them from being accidentally disengaged from the cargo hook." Are all crane hooks required to have safety latches?

Answer: The longshoring regulations do not require safety latches on hooks for ship's gear. 29 CFR 1918.81(b) does, however, require handling bridles which remain attached to the hoisting gear during successive draft picks to be attached by shackles or some other positive means to prevent accidental disengagement. Also, 29 CFR 1918.62(i)(2) requires mousing (or seizing) of screw pin shackles when the shackle is situated in an inaccessible place that is aloft. The regulations for marine terminals, Section 29 CFR 1917.45(e)(2), require that crane hooks be latched or otherwise secured to prevent accidental load disengagement.

Question 38: 29 CFR 1918.81(k) and 29 CFR 1917.13(h) states, "The employer shall require that employees stay clear of the area beneath overhead drafts or descending lifting gear." When necessary, can employees enter the area beneath descending overhead drafts or lifting gear?

Answer: No. Employees cannot enter the area beneath overhead drafts or descending lifting gear. However, employees can approach drafts or lifting gear once the draft or gear is at *working level* to maneuver and adjust as necessary.

Question 39: For longshoring operations, what is the difference between a Qualified Person in 29 CFR 1918.85 (Footnote 7) and a Designated Person in 29 CFR 1918.2?

Answer: 29 CFR 1918.2 *Definitions* states, "Designated person means a person who possesses specialized abilities in a specific area and is assigned by the employer to do a specific task in that area." For example, the gear man would be the appropriate person to perform the required gear inspections. The safety person or perhaps an experienced foreman could serve as the designated person for a required visual inspection of the vessel's gear prior to the use of the gear.

Under Footnote 7, found in 29 CFR 1918.85, a "Qualified Person means one with a recognized degree or professional certificate and extensive knowledge and experience in the subject field who is capable of design, analysis, evaluation and specifications in the subject work, project, or product." For example, the employer will need to rely on the manufacturer's certification or will need to hire a Qualified Person to perform the required certification of a fall protection system.

Question 40: Regarding 29 CFR 1918.85 *Containerized cargo operations*, and 29 CFR 1917.71 *Terminals handling intermodal containers or roll-on roll-off operations*, what is OSHA's position regarding the tandem lifting of two empty containers that are vertically connected by semi-automatic twistlocks (known as Vertical Tandem Lifts (VTLs))?

Prior to December 10, 2008, the vertical tandem lifting of containers was guided by an interpretation letter, known as the "Gurnham Letter." On December 10, 2008, OSHA published regulations specifically addressing the vertical tandem lifting on containers www.osha.gov/FedReg_osha_pdf/FED20081210.pdf. Those regulations became effective on April 9, 2009.

It is important to note that the OSHA VTL regulations were challenged in court, and a decision was published on June 17, 2011, www.cadc.uscourts.gov/internet/opinions.nsf/635D712C88E56 F4685 2578B200509E42/$file/09-1050-1313681.pdf. The decision rejected most of the industry challenge, but set aside two of OSHA's requirements: inspections required before unloading VTLs from a vessel and the prohibition on the handling of flatracks as a VTL. The court remanded these two issues to OSHA for further consideration and, as of the publication of this directive, OSHA's response has not been finalized. Questions regarding those issues should be directed to the Office of Maritime Enforcement.

The VTL rules are summarized below. The exact wording of the regulations is available at 29 CFR 1917.71 and 29 CFR 1918.85 and should be referred to for specifics.

- Vertical tandem lifting is limited to two, empty, intermodal containers, one on top of the other, connected by approved interbox connectors. [Ref: 29 CFR 1917.71(i)(2)]

- Each employee involved in VTL operations shall be trained and competent in the safety-related work practices, safety procedures, and other requirements in this section that pertain to their respective job assignments. [Ref: 29 CFR 1917.71(i)(1)]

- Vertical tandem lifts must be lifted by a shore-based container gantry crane or a similar type crane with certain capabilities specified in the regulations. [Ref: 29 CFR 1917.71(i)(4)(i)-(i)(4)(iii)]

- The crane operator must pause during the initial lift of VTLs to ensure that all the interbox connectors are properly engaged. [Ref: 29 CFR 1917.71(i)(5)]

- Containers below deck must not be handled as VTLs. [Ref: 29 CFR 1917.71(i)(6)]

- VTLs may not be performed when wind exceeds 34 mph (30 knots) or the crane manufacturer's recommendation for maximum wind speed, whichever is lower. [Ref: 29 CFR 1917.71(i)(7)(i) and (ii)]

- Interbox connectors used in VTLs must meet certain criteria. [Ref: 29 CFR1917.71(i)(8)(i)-(i)(8)(vi)]

- Interbox connectors, corner castings and containers used in a VTL must be inspected immediately before use. [Ref: 29 CFR 1917.71(i)(9)(i)-(ix)]

  NOTE: Per the court's ruling, this requirement does not apply to vessel-to-shore VTLs lifts.

- When transporting VTLs in the terminal, proper equipment must be used and the terminal's safety plan must be used. [Ref: 29 CFR 1917.71(j)(1) and (2)]

- The employer shall establish a safe work zone within which employees may not be present when vertically connected containers are in motion. [Ref: 29 CFR 1917.71(k)]

- VTLs handled by vessel-based cranes follow the same rules as shore-based cranes. [Ref: 29 CFR 1918.85(m)]

  NOTE: As pertaining to 29 CFR 1918.1, ship-to-shore VTLs by shore-based cranes are handled by 29 CFR Part 1917.

Question 41: Is it permissible to lift more than two flatrack containers at one time, using either semi-automatic twistlocks or internal locking mechanisms? In lifting flatrack containers either with semi-automatic twistlocks or internal locking mechanisms, are there any requirements that are similar to those specified in the answer to Question 40 (above) of this directive?

Answer: When connected by semi-automatic twistlocks, only two empty flatrack containers with their end frames folded may be lifted as a vertical tandem lift (VTL). Provisions that are applicable to VTL lifts of empty containers also apply to two empty flatrack containers with their end frames folded and connected by semi-automatic twistlocks.

When connected with internal locking mechanisms (i.e., built-in connectors that are designed for lifting), the number of empty flatrack containers with their end frames folded that may be lifted cannot exceed the manufacturer's specifications and must be lifted in accordance with the manufacturer's instructions.

Multiple empty flatrack containers with their end frames in the upright position are not allowed to be lifted using either semi-automatic twistlocks or internal locking mechanisms, because the lack of sides and roof lessen the stability and strength of the container.

NOTE: OSHA published a final rule on VTLs on December 10, 2008, which prohibited handling flatracks as a VTL. However, in deciding an industry challenge to the VTL rule, the court set aside that prohibition on the grounds that OSHA had not established the prohibition was feasible. While OSHA rewrites the regulations for the handling of empty flatracks, the above interpretation remains in effect.

Question 42: Will OSHA's 29 CFR 1918.85 and 29 CFR 1917.71 intermodal shipping container requirements also apply to U.S. Navy vessels?

Answer: Yes, but only in those cases where non-military employees are used to handle containers (i.e., government civilian employees or private-sector civilian employees).

Question 43: OSHA permits less-than-vertical lifts on ISO "closed box containers" under certain conditions as specified in 29 CFR 1918.85(f)(1)(i) and 29 CFR 1917.71(f)(1)(i). Why not permit less-than-vertical lifts on open top containers? Do the standards allow the lifting of a 40 foot open top or flat rack container with a 40 foot pipe spreader?

Answer: A "closed box container" is one that has a solid roof which adds to the rigidity of the container longitudinally to help prevent it from folding. Open top and flat rack containers with only corner posts do not have the added rigidity and, therefore, cannot be lifted less than vertical. An open top or flat rack container cannot be lifted with a single bar or pipe spreader, since such a lift would be impractical and hazardous to make with a single bar or pipe spreader, and would be

considered a violation.

Question 44: Under what conditions are less than vertical lifts (i.e., lifting forces applied from the crane/derrick to the container fittings) of intermodal containers allowed?

Answer: 29 CFR 1918.85(f) addresses the lifting of intermodal containers. It requires that containers be handled using lifting fittings or other arrangements specified in 29 CFR 1918.85(f)(1) and (2) unless the container is so damaged as to make special handling necessary. 29 CFR 1918(f)(1)(i) specifies that the hoisting of loaded containers 20 or more feet in length be done as follows: when hoisted by the *top fittings*, the lifting forces are applied vertically from a minimum of four fittings. Lifts that are less than vertical are permitted only when: the container is an International Standards Organization (ISO) "closed box container" (other types of containers such as flat racks and open top containers must be hoisted vertically); the condition of the box is sound; the speed of hoisting and lowering is moderated when a heavily loaded container (i.e., loaded to within 20 percent of the container's rated capacity) is encountered; the lift angle is at 80 to 90 degrees; the distance between the lifting beam and load is at least 8 feet 2.4 inches (2.5 meters); and the length of the spreader beam is at least 16.3 feet (5 meters) for a 20-ft. container and 36.4 feet (11 meters) for a 40-ft. container.

Ports or facilities that rely mainly on container gantry cranes generally do not perform non-vertical lifting of containers. Non-vertical lifting of containers is generally performed using mobile cranes, portal gantry cranes or vessel's gear. A non-vertical lift is made by connecting four wires (or chain legs) either directly to the cranes hook or to a spreader bar hung from the crane. A spreader bar is a simple steel beam with two lengths of chain or cable on both ends and a hook or other fitting on the chain legs to attach to the corner fittings of a container. Spreader bars are made shorter than the container, both for ease of maneuvering in tight lifts and to avoid snagging containers and ship parts or rigging. The longer the spreader bar, the more nearly vertical the lift on the container. A single wire crane also can use a box spreader to lift a container. A box spreader is essentially the same device that a container gantry crane uses to lift containers. However, a box spreader is heavier than a simple spreader bar. In addition, box spreaders may introduce additional safety risks for longshoremen working on container tops. For example, the use of box spreaders requires additional maneuvering to position and secure the spreader to the container, thus increasing employee exposure to falls.

Question 45: If the vessel is equipped with its own container gantry crane, would the fall protection requirements found in 29 CFR 1918.85(j) apply?

Answer: Yes, 29 CFR 1918.85(j) makes no distinction between a vessel crane or a shore-based crane, and the hazard to the employees is the same whether the container gantry crane is located on a vessel or on the shore.

Question 46: 29 CFR 1918.85(j)(1) states, "After July 26, 1999, where a container gantry crane is being used to handle containers, the employer shall ensure that no employee is on top of a container. Exception: An employee may be on top of a container only to perform a necessary function that cannot be eliminated by the use of positive container securing devices." What happens after July 26, 1999, if a vessel that does not have Positive Container Securing Devices (PCSDs) wants to load or discharge containers under a container gantry crane?

Answer: If employees are on top of containers being loaded or unloaded under a container gantry crane without the vessel having positive container securing devices (e.g., hanging stackers, semi-

automatic twist locks (SATLs), above deck cell guides), the employer would be in violation of the standard. One alternative to avoid a violation is to use cargo handling gear other than a container gantry crane. For example, employers could work the vessel at a different location through the use of shore-based mobile or portal cranes.

Question 47: Some of the modern container vessels have containers stacked five or more high above deck. Employees are able to unlock twistlocks from the deck of the vessel through the use of long poles, provided that the containers are four high or less. The arrival of vessels with containers stacked five or more high necessitates unlocking the containers from the top, as the poles will not reach and longer poles may cause a greater safety hazard such as dropping the longer poles on fellow employees. Will the employees be permitted on top with fall protection?

Answer: With regard to the difficulty of providing a safe means that would completely eliminate the need for employees to go on top of a container to safely unlock those stacked five or more high above deck, paragraph 29 CFR 1918.85(j)(1) provides an exception with some examples listed in Footnote 6. For containers stacked five or more high, the use of a longer lashing pole while standing on deck would prove difficult to control and would create a greater hazard for the employees working on deck than if they were allowed to "go aloft" onto the top of the container to unlock them. If the employer can show that there are no alternative feasible means to allow employees to safely unlock these containers without going "aloft," then the exception would apply. Employees working on top of containers under this exception are required by 29 CFR 1918.85(j) to be protected by a fall protection system meeting the requirements of 29 CFR 1918.85(k). Whenever a new procedure or positive container securing device is developed that eliminates the need for employees to go on top of containers to perform such an operation, it must be used since it will provide an alternative feasible means and the exception would no longer apply.

NOTE: Employees working on top of containers under this exception (i.e., Footnote 6 to 29 CFR 1918.85(j)(1)(i)), should be instructed to unlock all twist locks that require unlocking during their first trip to the top of the containers.

Question 48: Many employers and shipping companies contend that it is not feasible to properly lash 20-foot containers *below decks* without employees being allowed to go on top of the containers to place and remove double-stack cones and similar devices which are essential to the proper stowage of the vessel. Do the 29 CFR 1918.85(j) requirements that no employee is allowed on top of a container, and that positive container securing devices must be used when using a container gantry crane, apply *below decks*?

Answer: OSHA's revised maritime standards pertaining to containerized cargo operations (29 CFR 1918.85) apply to the handling of containers both above decks and below decks on vessels. The exception provided by 29 CFR 1918.85(j)(1)(i), and the examples listed in Footnote 6, also apply below decks. Employees working on top of containers under this exception are required by 29 CFR 1918.85(j) to be protected by a fall protection system meeting the requirements of 29 CFR 1918.85(k). Whenever a new procedure or positive container securing device is developed that eliminates the need for employees to go on top of containers to perform such an operation, it must be used since it will provide an alternative feasible means and the exception would no longer apply.

20-foot containers loaded into below deck 40-foot container cell guides. There is currently no alternative to the manual placement/removal of double bridge stackers between horizontally adjacent 20-foot containers in the same cell guide. Therefore, for this situation, the placement/removal of double bridge stackers is a legitimate exemption under 29 CFR 1918.85(j)(1). However, this

exemption applies only to the placement/removal of those devices for which no alternative means of handling exists. This means that even though employees are allowed to place/remove double bridge stackers under the 29 CFR 1918.85(j)(1) exemption, for the four corners adjacent to the cell guides, positive container securing devices (PCSDs) such as "hanging stackers" are required to be used. The exposure of workers to fall hazards during container top handling operations is reduced by this requirement of the standard.

Question 49: Under what conditions are employers allowed by the exemption in 29 CFR 1918.85(j)(1) to have workers use personnel cages and safety cages to place or remove container top fittings?

Answer: Personnel cages and safety cages used with a *container gantry crane* may only be used to place or remove container fittings when the exemption under 29 CFR 1918.85(j)(1) is applicable. Employers using personnel cages and safety cages must comply with all requirements specified under 29 CFR 1917.45(j) for employee *transport* (See 29 CFR 1918.85(g), *Safe container top access*), and 29 CFR 1918.85(k) for employee fall protection while working. The requirements under 29 CFR 1917.45(j) apply *only to the transport* of employees to or from container tops, including the transport of employees to and from container tiers of different heights. Each device, such as a safety cage, used to *transport* an employee(s) by being attached to a container gantry crane spreader (i.e., the spreader picks up the device similar to a container), must have a *secondary means of attachment* as required by 29 CFR 1918.85(k)(10). "Live" (activated) container gantry crane lifting beams or attached devices may be used as anchorage points for employee fall protection purposes provided that all requirements of 29 CFR 1918.85(k)(7) are met and the exemption under 29 CFR 1918.85(j)(1) is applicable. Personnel cages and safety cages *placed on top of containers* may be used as an anchorage point(s) for employee fall protection purposes provided that they meet 29 CFR 1918.85(k) requirements. If the exemption under 29 CFR 1918.85(j)(1) is applicable, then container gantry cranes may be used to place cages on top of containers, otherwise, portal gantry and mobile cranes must be utilized.

Question 50: Are containers "block stowed" below decks on a non-cellular container vessel exempt under 29 CFR 1918.85(j)(1)?

Answer: Non-cellular container vessels (those which do not have container cell guides), including bulk carriers, are often used to transport containers below decks. In order to improve the stowage stability of the containers, and the stability and safety of the vessel itself, the containers are "block stowed," which means that the corner castings of levels, rows and columns are immediately adjacent to each other and may be *interlocked* together as a single integral block. The block of containers is built from the deck up and must be loaded, stowed, and secured throughout each voyage in accordance with the Cargo Securing Manual (vessels over 500 gross tons) which has been specifically approved for each vessel in accordance with International Maritime Organization (IMO) guidelines (NOTE: U.S. flag vessels comply with these requirements as codified under 46 CFR 90.05-10). The Cargo Securing Manual specifies for *each vessel* the alternative stowage patterns, maximum stack masses, permissible vertical sequences of masses in stacks, maximum stack heights, and the *application of securing devices to properly and safely secure the containers* with consideration of possible forces to be induced during transit, and the stability of both the cargo stowage and vessel. Due to container accessibility issues (e.g., container adjacent to a bulkhead, end-to-end/side-by-side stowage results in four adjacent container corners) and container interlocking necessities (e.g., the stowage must be engineered to be an integral block to ensure a safe and stable transit, the stowage may be required to be secured directly to the hull/structure of the vessel using devices such as tension pressure elements), the use of automatic twist locks, SATLs and "hanging

stackers" may not be feasible. Container stacks for which the vessel's Cargo Securing Manual requires the stacks to be interlocked, can only be interlocked by means of manual fittings since no automatic or semi-automatic fitting can accomplish this function. As a consequence, a container securing fitting for below deck block stows will be exempt under 29 CFR 1918.85(j)(1) when the vessel's Cargo Securing Manual requires the fitting to interlock adjacent containers or be secured to the vessel structure; otherwise, positive container securing devices (PCSDs) such as automatic twist locks, SATLs or "hanging stackers" will be used to secure below deck containers in block stows in order to reduce worker exposure to fall hazards during operations. Employees that are exposed to fall hazards, including work on top of containers, must be provided fall protection.

Question 51: United States trucking and rail companies are ordering 53-foot ASA containers from overseas manufacturers. These containers, which are empty, are loaded as "cargo" into non-containerized vessels and shipped to the United States. The non-containerized vessels transport these 53-foot containers as a block stow using a variety of stowage arrangements and a variety of different container fittings. Does OSHA consider the empty non-ISO containers being shipped as cargo to be exempted under 29 CFR 1918.85(j)(1)?

Answer: Vessels transporting these containers must load, stow and secure these 53-foot containers in accordance with their respective Cargo Securing Manuals. For compliance purposes, the shipment of these containers on vessels will be treated as a "block stow." For below deck block stows, a container securing fitting will be exempt under 29 CFR 1918.85(j)(1) when the vessel's Cargo Securing Manual requires the fitting to interlock adjacent containers or be secured to the vessel structure; otherwise, positive container securing devices (PCSDs)such as automatic twist locks, SATLs or "hanging stackers" will be used to secure below deck containers in block stows in order to reduce worker exposure to fall hazards during operations.

Question 52: With regard to fully containerized reefer ships for fruit, because of all the "plug-ins" for the reefer containers, there are catwalks at every level of the stacks except for the very top and the first tier. The catwalks are fully equipped with railings (two horizontal rail courses; therefore, there is no unguarded edge). Where there are catwalks, the longshoring workers can insert cones without ever going off the catwalk and onto the tops of the containers. For all areas where stacking cones cannot be placed directly by workers from the catwalk, SATLs are used. Does this fully comply with 29 CFR 1918.85(j)(1)(i)? Also, since the "device" (i.e., catwalk) used to preclude container-top work is not a positive container securing device such as a SATL or an above deck cell guide, are such catwalks in compliance with 29 CFR 1918.85(j)(1)(ii)?

Answer: These vessels have catwalks which were engineered and designed to provide employees access to the reefer containers for plugging-in the reefer compressor electrical cables, and periodically reading reefer gauges. Using these catwalks to perform other functions, such as the placement or retrieval of manual cones on container tops, involves additional safety issues and considerations such as fall protection, ergonomics, and increased hazards related to potentially falling objects. Without the catwalks being specifically engineered and designed for cone placement/removal, in order to perform such tasks employees may have to lean through or bend over the catwalk guardrails to place/remove cones, stand on the mid-rails to perform such tasks, lift the cones (which weigh from *9 to 17 pounds* for single cones and up to *24 pounds* for double cones) with one arm from difficult body positions and angles. Further, with a horizontal distance of 18 to 24 inches or more between the catwalk and the container, a dropped cone is likely to damage equipment, injure personnel, or both. The use of positive container securing devices (PCSDs), such as SATLs or "hanging stackers," as required by 29 CFR 1918.85(j)(1)(ii), eliminates these additional safety issues

and considerations because it eliminates the need for employees to perform reefer container top coning operations. However, if the catwalk is *specifically* engineered and designed for the placement/removal of cones, including full consideration of ergonomics and falling objects (cones), and complies with OSHA requirements for walkways/guardrails, then the use of the catwalk to place/remove cones would be in compliance. The employer must demonstrate that the engineering, design and functional use of the catwalk provides a safe means of performing the placement/removal of cones for reefer container top operations.

Question 53: 29 CFR 1918.85(j)(3) *Other exposure to fall hazards* states, "The employer shall ensure that each employee exposed to a fall hazard is protected by a fall protection system meeting the requirements of paragraph (k) of this section." There are several existing fall protection systems that require employees to make the initial hookup without fall protection. Will OSHA permit employees to come within three feet of an unprotected edge for the initial hookup of container top fall protection systems?

Answer: OSHA would consider this to be a violation since the employee is, by definition, exposed to a "fall hazard." As described under 29 CFR 1918.2, *Definitions*, "Fall hazard" means the following situations: (1) whenever employees are working within three feet (0.91 m) of the unprotected edge of a work surface that is 8 feet or more (2.44 m) above the adjoining surface and twelve inches (0.3 m) or more, horizontally, from the adjacent surface; or (2) whenever weather conditions may impair the vision or sound footing of employees working on top of containers.

Question 54: 29 CFR 1918.85(j)(3) lists several examples where the employer can demonstrate that fall protection for an employee would be infeasible or create a greater hazard. One of the examples listed is "port conditions." What does OSHA mean by "port conditions?"

Answer: OSHA was referring to the situation where some ports would prohibit employees from tying off to container crane spreaders due to liability and insurance considerations. In this situation, it would be the employer's responsibility to use an alternate fall protection system that does not require employees to be attached to the spreader.

Question 55: Are there some container top situations aboard vessels where fall protection, as required by 29 CFR 1918.85(k), is not feasible or may create a greater hazard?

Answer: Container top fall protection is feasible in the great majority of situations. It is the employer's burden to prove that fall protection is not feasible or that providing fall protection would create a greater hazard. OSHA recognizes that some containers (open top containers, rag top containers, and tank containers) are constructed differently than the normal intermodal containers and may create situations where providing fall protection may prove to be difficult. However, fall protection may be feasible even in those situations. Fall protection also may be feasible for employees working on chimney stows by tying off to the spreader. Any questions regarding feasibility should be directed to the OSHA National Office (Directorate of Enforcement Programs, Office of Maritime Enforcement).

NOTE: With regard to fall protection, OSHA recognizes that there may be particular instances when fall protection may not be feasible in this industry. An example of a circumstance where fall protection may not be feasible is the placement of an over-height container on a chimney stow using gear that requires the manual release of hooks. In these types of situations, 29 CFR 1918.85(j)(3) requires the employer to:

A. Make a determination that an employee will be exposed to a fall hazard, but that the use of fall protection is not feasible or would create a greater hazard;

B. Alert the exposed employee of the hazards involved; and

C. Instruct the exposed employee how to best minimize the hazard.

OSHA emphasizes that such situations are not common and that when they do occur, the burden is on the employer to fully comply with these requirements before the employee performs the work. Claims regarding the infeasibility of fall protection will be closely scrutinized by the Agency in its enforcement of the rule.

Question 56: Is the container top fall protection required by 29 CFR 1918.85(k) for vessels also specifically required in marine terminals by 29 CFR Part 1917?

Answer: 29 CFR Part 1917, the *Marine Terminals* Standard, does not specifically address this hazard. However, since this is a recognized hazard when handling containers aboard ships (See 29 CFR Part 1918, *Safety and Health Regulations for Longshoring*), the General Duty Clause could be cited for lack of fall protection within a marine terminal, provided that all requirements for such a violation are met (See OSHA Instruction CPL 02-00-150, *OSHA Field Operations Manual (FOM),* April 22, 2011).

Question 57: 29 CFR 1918.85(k)(7) states, "When 'live' (activated) container gantry crane lifting beams or attached devices are used as anchorage points, the following requirements apply:

The crane shall be placed into a 'slow' speed mode;

The crane shall be equipped with a remote shut-off switch that can stop trolley, gantry, and hoist functions and is in control of the employee(s) attached to the beam; and

A visible or audible indicator shall be present to alert the exposed employee(s) when the remote shut-off is operational."

Does the electrical power to a container spreader have to actually be shut-off when workers are attached to the spreader (or a cage attached to the spreader), or can the shut-off switch be left in the on position but in the control of the employees attached to the spreader?

Answer: The shut-off switch can be left in the "ON" position provided each employee attached to the spreader has in their possession a remote shut-off switch that can stop trolley, gantry, and hoist functions. A visible or audible indicator must be present to alert the exposed employees when the remote shut-off is operational.

Question 58: Must the container crane be equipped with a slow speed mode as required by 29 CFR 1918.85(k)(7)(i) if the power for trolley, gantry, and hoist is shut down?

Answer: No, the slow speed mode required by 29 CFR 1918.85(k)(7)(i) is not necessary when power is shut down. The slow speed mode is necessary only when power is activated and the spreader moves across the containers with employees attached to it.

Question 59: Can an employee on top of the spreader or in a cage that is attached to the spreader be the person in control of the shut-off switch required by 29 CFR 1918.85(k)(7)(ii)?

Answer: Each exposed employee attached to the spreader or cage must have in their possession a remote shut-off switch that can stop the crane's trolley, gantry and hoist functions as required by 29 CFR 1918.85(k)(7)(ii). Other employees who are watching the operation but are not attached to the spreader beam also may have a remote shut-off switch because they may be in a better position to spot potential problems faster than the employees attached to the spreader beam.

Question 60: 29 CFR 1918.85(k)(7) states, "When live (activated) container gantry crane lifting beams or attached devices are used as anchorage points, the following requirements apply." What does OSHA mean by attached devices?

Answer: Attached devices are the cage or guarded riding platform attached to the spreader and used as the employee's anchorage point.

Question 61: During intermodal container operations aboard a vessel, what are the fall protection requirements for employees exposed to unguarded edges that do not involve intermodal containers?

Answer: 29 CFR 1918.85(l) provides for fall protection in container operations that require employees to work along unguarded edges (other than on container tops). In these situations, fall protection meeting the requirements of 29 CFR 1918.85(k) of this section must be provided where the fall distance is greater than eight feet (2.44 m). This primarily addresses work operations such as lashing, locking and unlocking twist locks from surfaces other than container tops, or signaling to direct the placement of containers. This is consistent with OSHA's approach regarding fall distances in 29 CFR 1918.32(b), and 29 CFR 1918.85(j), (k), and (l). (See definition of "fall hazard" at 29 CFR 1918.2)

Question 62: Does 29 CFR 1918.85(k)(7) prohibit an employer from using the lifting beam of a container gantry crane to transport employees above deck? If 29 CFR 1917.45 and 29 CFR 1918.66(c) applies to personnel being hoisted aloft, does the voluntary inclusion of an anchor point and the use of a fall protection harness within the guarded riding platform trigger the requirements for slow mode and emergency E-stop as outlined in 29 CFR 1918.85(k)?

Answer: The OSHA standard that applies when employees are being hoisted in a guarded riding platform by a *shore-based crane* is 29 CFR 1917.45(j). 29 CFR 1918.66(c) applies when hoisting personnel with a crane that is part of or placed on a *vessel*. Employees that are transported in a lifting beam platform of a container gantry crane or other guarded platform being hoisted by a *shore-based crane* are covered by the *Marine Terminals* Standard (29 CFR Part 1917), not the *Longshoring* Standard (29 CFR Part 1918). Using the lifting beam of a container gantry crane for the transport of employees above deck is allowed, provided that the platform used is in compliance with the requirements of 29 CFR 1917.45(j). Transporting employees using a *vessel-based crane* is covered by the *Longshoring* Standard (29 CFR Part 1918) and is allowed when the requirements of 29 CFR 1918.66(c) are met.

When employees are working outside of the guarded riding platform on top of intermodal containers and using the "live" (activated) container gantry crane lifting beams or attached devices as an anchorage point for a fall protection system, then 29 CFR 1918.85(k) applies. 29 CFR 1918.85(k)(7)(i) - (iii) require that: the crane is placed in a slow speed mode; the crane is equipped

with a remote shut-off switch that is in the control of the employees attached to the crane; and a visible or audible indicator is present to alert the exposed employee(s) when the remote shut-off is operational.

Again, 29 CFR 1918.85(k)(7)(i) - (iii) apply when employees are outside of the guarded riding platform and working on top of intermodal containers. They do not apply when employees are in the guarded riding platform of a crane, either during transit or while performing work activities. 29 CFR 1917.45(j) and 29 CFR 1918.66(c) require that the platform is guarded to protect employees from falls. However, the use of a supplemental fall protection system by employees in the guarded riding platform during transit or while performing work activities creates an added measure of safety.

Question 63: 29 CFR 1918.86(c) states, "Pedestrian traffic. Bow, stern and side port ramps also used for pedestrian access shall meet the requirements of 29 CFR 1918.25. Such ramps shall provide a physical separation between pedestrian and vehicular routes." What will OSHA accept as a physical separation? Is the physical separation necessary when pedestrians are kept off the ramps during vehicular travel?

Answer: The physical separation need not be strong enough to prevent a vehicle from breaking through. Examples of physical separation are railings, stanchions, or traffic barrels connected by rope or high visibility tape, or other materials separating pedestrian and vehicle traffic. Lines painted on the ramp or plastic traffic cones alone do not meet the intent of the standard. The purpose of the physical separation is to guide employees to the pedestrian traffic area. The physical separation is not necessary when traffic control is used to keep pedestrians off the ramps during vehicular travel.

Question 64: Are trailers, chassis, and low boys required to have brakes when they are used in Ro-Ro operations, as brakes are required by 29 CFR 1918.86(i) for tractors?

Answer: 29 CFR 1918.86(i) requires that tractors have sufficient braking capacity to descend ramp inclines safely. Brakes would be necessary on trailers, chassis, and low boys if the tractor has insufficient braking capacity to safely control the load while descending ramps.

Question 65: Will OSHA strictly enforce the square inch size requirement for a vest which is described in a NOTE to paragraphs 29 CFR 1918.86(m) and 29 CFR 1917.71(e)?

Answer: No, OSHA will not be measuring the size of the vest. The standard's intent is to make employees more visible by wearing high visibility, reflective clothing. OSHA will accept the "PMA-type vest," coveralls, shirts and jackets with high visibility material for daytime use and retro-reflective material for nighttime use.

Question 66: If crane mechanics, longshoremen, or other employees pass through the immediate area of container handling equipment or traffic lanes, do they need to wear high visibility/retro-reflective vests as required by 29 CFR 1918.86(m) and 29 CFR 1917.71(e)?

Answer: If employees are in the immediate area of container handling equipment or traffic lanes, 29 CFR 1917.71(e) and 29 CFR 1918.86(m) apply, unless the employees are in a designated walkway per 29 CFR 1917.71(d)(1).

NOTE: 29 CFR 1918.86(m) requires all persons on any deck during the conduct of Ro-Ro loading or discharging operations to be equipped with high visibility vests (or equivalent protection).

Question 67: 29 CFR 1918.87(c) states, "Personnel shall not be permitted to ride on the elevator's platform if a fall hazard exists." Can employees ride unguarded elevators if they are not within three feet (0.91 m) of the unguarded edge? Can the driver of a powered industrial truck or vehicle ride the cargo elevator on a ship?

Answer: Employees are allowed to ride unguarded elevators provided that they maintain a distance of three feet (0.91 m) from the edge (See definition of "fall hazard" at 29 CFR 1918.2). When any part of an employee's body, including extremities, comes within three feet (0.91 m) of an unprotected edge, a fall hazard exists. In order to make sure that the brakes are applied and prevent the truck or vehicle from rolling, the driver of a powered industrial truck or vehicle is allowed to ride the vehicle on an elevator platform.

Question 68: In log loading operations, 29 CFR 1918.88(g), a rescue boat capable of affecting an immediate rescue must be available when employees are working on rafts or booms. Does the boat have to be manned?

Answer: Yes, the rescue boat must be continuously manned in order to be capable of affecting an immediate rescue. The employer must determine, based on local conditions, what type of rescue boat is appropriate to the immediate circumstances. For example, when currents are fast enough to carry an employee away, employers would be required to make a powered rescue boat available.

NOTE: These guidelines require a powered rescue boat to be available whenever the waters are rough or swift or where manually-operated boats are not practicable. Powered rescue boats are required when the current exceeds one knot (1.689 feet per second, or about 17 feet per 10-seconds).

Question 69: Can employees attempt to stop a leaking drum of hazardous material that has the potential to become an emergency, without being trained in accordance with the *Hazardous Waste Operations and Emergency Response* (HAZWOPER) standard at 29 CFR 1910.120(q)?

Answer: No. If employers direct their employees to respond to an emergency involving a hazardous substance spill that is beyond the scope of their emergency action plans (developed pursuant to 29 CFR 1917.30 and 29 CFR 1918.100), the provisions of the *Hazardous Waste Operations and Emergency Response* (HAZWOPER) standard at 29 CFR 1910.120(q) will apply and employees must be trained to perform the duties required of them under 29 CFR 1910.120(q). HAZWOPER, however, does not cover responses to incidental spills that do not have the potential for becoming emergencies. Incidental releases are those releases of hazardous substances which do not pose a significant safety or health hazard to employees in the vicinity or to those cleaning them up, and do not have the potential to become an emergency within a short time frame. These types of releases are limited in quantity, exposure potential, and toxicity. Employees responding to any incidental release must be trained according to the training requirements of the *Hazard Communication* standard (29 CFR 1917.28 and 29 CFR 1918.90).

Question 70: Can you explain the 29 CFR 1918.94 rule for worker exposures to carbon monoxide (CO) on vessels and how this was determined?

Answer: 29 CFR 1918.94(a) addresses the hazards associated with shipboard exposures to carbon monoxide (CO). The buildup of unhealthy levels of carbon monoxide is of particular concern in breakbulk and Ro-Ro vessel operations. For breakbulk operations, forklifts are used in the hold; in Ro-Ro vessel operations, almost any type of vehicle can be used since the cargo is often the vehicle itself (i.e., vehicles being transported as cargo on Ro-Ro ships). The previous limits for carbon

monoxide in marine terminals and longshoring have been retained and are: 50 ppm (0.005%) as an 8-hour time weighted average (TWA) (NOTE: this is consistent with the TWA for general industry in 29 CFR Part 1910, Subpart Z) and, in enclosed spaces, a 100 ppm (0.01%) ceiling (i.e., the maximum allowable exposure at any given point in time; never-to-be-exceeded peak). However, there is a limited exception of a 200 ppm (0.02%) ceiling for Ro-Ro operations on vessels. The formula for calculating an eight hour TWA was removed from the standard because it is appropriate for personal monitoring, but not for area monitoring. Instead of an 8-hour TWA, the standard uses an "8-hour average area level" for monitoring CO levels.

NOTE: In longshoring and marine terminals, employees regularly enter and work in enclosed spaces. Exposure can rise much more quickly to Immediately Dangerous to Life or Health (IDLH) levels in enclosed spaces, and escape from these spaces can be difficult. In these spaces, there is a higher potential for concentrations to rise to IDLH levels of CO. The 100 ppm ceiling for enclosed spaces in the rule is intended to serve as a trigger level, to enable employees to exit the enclosed spaces before CO concentrations reach hazardous levels. This is particularly important because of two factors that are closely interrelated: first, employees working in enclosed spaces may need more time to exit those spaces because of their location and the vessel configuration; and second, CO generated into an enclosed space can rapidly accumulate to unsafe levels. Thus, by requiring employees to exit enclosed spaces when the CO level reaches 100 ppm, the standard takes these factors into account to ensure that the employees will not be exposed to hazardous concentrations of CO in the spaces. With regard to CO exposure in Ro-Ro vessels, a 100 ppm ceiling level is not always feasible. Although levels of CO often spike above 100 ppm, these levels almost immediately fall below this level, with subsequent levels well below. In addition, from an operational standpoint, spikes in CO levels may occur upon starting vehicles for unloading. Typically, employees are within the vehicles and are in the process of exiting the vessel. If a CO alarm were to go off under these circumstances, it would be unreasonable to require the employees to stop the vehicles and evacuate the vessel on foot, thereby increasing their exposure. This type of Ro-Ro operation CO exposure contrasts sharply with other exposures such as working in the hold of a vessel using gasoline-powered industrial trucks where the CO build up is gradual, does not dissipate rapidly, and evacuation is by a vertical ladder (more physically demanding). As a result, OSHA set a **200 ppm ceiling limit** for occupational exposure *for Ro-Ro vessel operations.* It was noted that although this exception was based on feasibility considerations, it does meet the NIOSH recommendation for a ceiling based on health considerations.

Question 71: What are the dangers of "Menhaden" and similar types of fish, and what standards apply, if any?

Answer: 29 CFR 1918.94(f) *Catch of menhaden and similar species of fish*, addresses longshoring operations aboard vessels engaged in the menhaden trade (or trade in similar species of fish). Menhaden is a term that refers to several species of trash fish which are used to produce, among other products, fertilizer, pet food and fish oil. As cargo, menhaden presents a health hazard to longshore workers because upon decomposition it generates hydrogen sulfide gas (H_2S). 29 CFR 1918.94(f) does not apply to vessels that are using refrigerated holds for the storage of all cargo, because refrigeration prevents the menhaden from decomposing. This section requires that, before employees enter a hold that contains menhaden, the hold be tested for hydrogen sulfide and oxygen deficiency. These tests must be performed by *designated supervisory personnel*, trained and competent in the nature of the hazards, and in the use of relevant test equipment and procedures. The maximum allowable atmospheric concentration of hydrogen sulfide, as measured by direct reading instruments is a 20 ppm ceiling. The oxygen level must not be less than 19.5%. Unless these atmospheric levels are met, employees are not permitted to enter the hold. The corresponding

provision of the *Marine Terminals* Standard is 29 CFR 1917.73.

Question 72: If sanitation facilities as required by 29 CFR 1918.95 are not provided to longshoremen working on a vessel, can the sanitation facilities at the marine terminal required by 29 CFR 1917.127 be used to meet this requirement?

Answer: 29 CFR 1918.95 *Sanitation*, addresses requirements for washing and toilet facilities, drinking water, prohibited eating areas (where hazardous materials are stowed or handled), and garbage and overboard discharges. Longshoring work is normally performed at marine terminals. If the marine terminal's sanitation facilities are available for longshore employees, this would constitute compliance with 29 CFR 1918.95. 29 CFR 1917.127, which covers sanitation at marine terminals, is essentially identical to 29 CFR 1918.95.

Question 73: How does the "danger zone" apply to machine guarding under 29 CFR 1918.96(e) and 29 CFR 1917.151?

Answer: 29 CFR 1918.96(e) *Machine guarding*, requires guarding of danger zones (see 29 CFR 1918.2 definition) on machines and equipment used by employees and stipulates that the power supply to machines be turned off, locked out, and tagged out during repair, adjustment, or servicing work on such machines (i.e., lockout/tagout). This provision is written in performance-oriented language and is similar to 29 CFR 1917.151.

The danger zone performance approach to machine guarding provides coverage of all hazards within the danger zone without the need to address each hazard separately. This approach also requires employers to use judgment regarding which machine parts or areas at or near a machine do in fact expose employees to workplace hazards. Guidance on a wide range of machine guarding techniques and background information may be found in the OSHA pamphlet *Concepts and Techniques of Machine Guarding* (OSHA 3067-1992).

Question 74: What are the requirements for first aid and lifesaving facilities during longshoring operations, and where can additional information be obtained by an employer?

Answer: 29 CFR 1918.97 *First aid and lifesaving facilities*, parallels the same provisions for shoreside marine cargo handling (29 CFR 1917.26). For the benefit of employers, a *non-mandatory* Appendix V, to 29 CFR Part 1918, is provided which contains a list of the basic elements of a first aid training program that incorporates generally accepted guidelines for, among other aspects of a first aid program, the handling of potentially infectious body fluids (i.e., "universal precautions"). 29 CFR 1918.97(c) *First aid kits*, specifies the requirements for first aid kits. This paragraph was modified to recognize that a person who is certified in first aid and familiar with the hazards found in marine cargo handling operations, is qualified to select and restock a first aid kit. Although employers may seek guidance from ANSI guidelines on this issue (ANSI Z308.1-1978, *Minimum Requirements for Industrial Unit – Type First Aid Kits*), compliance with 29 CFR 1918.97 is still required.

Question 75: Is the requirement for a stretcher under 29 CFR 1918.97(d), met by a stretcher available to longshoremen under 29 CFR 1917.26(d)?

Answer: 29 CFR 1918.97(d) *Stretchers*, addresses specific requirements for the strength, design characteristics, and positioning of emergency stretchers (such as a Stokes basket). If an emergency stretcher is available to longshore workers shoreside in accordance with 29 CFR 1917.26(d), this will

satisfy the parallel requirement in 29 CFR Part 1918.

Question 76: Regarding 29 CFR 1918.97(d) and 29 CFR 1917.26(d), is there a maximum distance that the stretcher or its equivalent must be maintained from the work area? If so, is the measurement taken from the work area, the ship's center, or the ship's bow or stern? Also, if stretchers are located outside the bow and stern of the ship, would that be considered as being kept close?

Answer: There is no maximum distance that the stretcher or its equivalent may be maintained from the work area. However, frequently it is necessary to provide first aid promptly after a life-threatening accident or injury in order to resuscitate or stabilize a victim. Life-threatening accidents and injuries are reasonably foreseeable events in the marine cargo handling industry. Employers must locate the stretcher or its equivalent such that it can be available immediately, after the victim receives initial assistance, to transport the victim from the vessel to a location where more comprehensive medical assistance can be provided.

Question 77: In reference to 29 CFR 1918.97(d)(7) and 29 CFR 1917.26(d)(7), if material or vehicles block the view of the container where the stretcher is kept, is it still considered to be available, though not visible?

Answer: Both 29 CFR 1918.97(d)(7) and 29 CFR 1917.26(d)(7) state, "Stretchers in permanent locations shall be mounted to prevent damage and shall be protected from the elements if located out-of-doors. If concealed from view, enclosures shall be marked to indicate the location of the lifesaving equipment." The employer should take care not to block any sign designed to inform employees regarding the location of devices intended to aid in the response to injuries and accidents (e.g., Stokes basket stretchers). If, for some reason, the scope of work makes it impossible for the sign not to be blocked, it is incumbent upon the employer to provide an alternate means of informing employees of the location of such lifesaving equipment. Should the response device be located in a shed or building, then the employer and employees must be able to readily locate the device. In an Occupational Safety and Health Review Commission decision (OSHRC Docket No. 76-540), the judge decided that the stretcher, which was kept in a warehouse, did not meet the definition of "available" when employees and supervisory personnel were not able to locate the stretcher after searching for more than ten minutes.

Question 78: Regarding 29 CFR 1918.97(e) and 29 CFR 1917.26(f), is there a maximum distance that the life ring must be maintained from the work area? If so, is the measurement taken from the work area, the ship's center, or the ship's bow or stern? If the life ring is located outside the bow or stern of the ship, would it be considered as being kept close?

Answer: There is no maximum distance that the life ring may be maintained from the work area. According to 29 CFR 1918.97(e), life rings must be in the "vicinity" of the vessel, which OSHA has interpreted to be either on the vessel, or on the pier adjacent to the vessel and between the bow and stern of the vessel. Similarly, 29 CFR 1917.26(f) requires that life rings be available at readily accessible points at each waterside work area where the employees' work exposes them to the hazard of drowning. An employer must ensure that the life ring can be retrieved and used expeditiously, if an employee falls, or is pulled, into the water.

NOTE: Life rings are Type IV PFDs that are approved by the U.S. Coast Guard pursuant to 46 CFR Part 160.

Question 79: Under what conditions can employees with medical ailments be excluded from the requirements of 29 CFR 1918.98 and 29 CFR 1917.27 regarding qualifications to operate machinery or equipment?

Answer: 29 CFR 1918.98 *Qualifications of Machinery Operators and Supervisory Training*, sets out requirements for the qualifications of machinery operators (e.g., crane or winch operators, industrial truck drivers, conveyor operators), and training requirements for supervisory personnel (e.g., gang supervisors, stevedore superintendents) in accident prevention. These same provisions can be found in the *Marine Terminals* Standard (29 CFR 1917.27). 29 CFR 1918.98(a)(1) and 29 CFR 1917.27(a)(1) stipulate that employees who are being trained and supervised by a designated person may operate machinery or give signals to operators during training. 29 CFR 1918.98(a)(2) and 29 CFR 1917.27(a)(2) provide that employees with defective eyesight or hearing that has not been corrected, are not permitted to operate certain equipment (i.e., cranes, winches, other power-operated cargo handling apparatus, or power-operated vehicles). In addition, employees suffering medical ailments that may suddenly incapacitate them are not permitted to operate such equipment. Employees with medical ailments, such as heart disease and epilepsy, should only be excluded from operating the specified machine if their particular medical condition poses a high probability that they could become suddenly incapacitated, and only if there is no reasonable accommodation that would eliminate or reduce the risk of direct threat of harm to the employee or others. "*Suddenly incapacitating*" medical ailments are those that pose a *direct threat* of *substantial harm* to the health or safety of the employee, or others that cannot be eliminated or reduced by some form of *reasonable accommodation*. *Direct threat* refers to those risks that are *significant*, *specific*, and *imminent* or *current*. In addition, *direct threat* is limited to those situations in which there is a *high probability* that substantial harm might occur. Thus, this provision does not apply to medical ailments, including heart disease and epilepsy that pose only a speculative or remote risk of harm. Likewise, this provision is not intended to include medical ailments that pose only a slightly increased risk of harm. In determining whether there is a direct threat to the health or safety of the employee or others, the employer should identify the *specific* risk posed by the employee as well as the particular *aspect* of the ailment that would pose a direct threat. There are certain factors the employer should consider when determining whether the medical condition of the employee poses the type of direct threat anticipated by this provision:

- The *duration* of the risk;
- The *nature* and *severity* of the potential harm;
- The *likelihood* that the potential harm will occur; and
- The *imminence* of the potential harm.

The determination of the seriousness and imminence of the potential harm also must be based on the employee's *current* medical condition and the employee's *current ability to perform the job*. Determinations of whether an employee poses a direct threat of substantial harm must be made on a *case-by-case basis*, and must be based on the *best available objective data* or other *factual evidence* and/or *medical analyses* regarding the *particular employee*. Where the employer determines that the employee's medical ailment poses a significant risk of substantial harm, the employer also must consider whether reasonable accommodations are available that would eliminate or reduce the risk so that it is below the level of direct threat.

For both 29 CFR 1918.98(a)(2) and 29 CFR 1917.27(a)(2) the definition for suddenly incapacitating medical ailments is consistent with the Americans with Disabilities Act (ADA), 42 U.S.C. 12101 (1990). Therefore, employers who act in accordance with the employment provisions (Title I) of the ADA (42 U.S.C. 12111 - 12117), the regulations implementing Title I (29 CFR Part 1630), and the Technical Assistance Manual for Title I issued by the Equal Employment Opportunity Commission (Publication number: EEOC-M1A), will be considered as being in compliance with 29 CFR 1918.98 and 29 CFR 1917.27.

Question 80: 29 CFR 1918.98(b) and 29 CFR 1917.27(b) require that by July 16, 1999, all supervisors of five or more persons must complete a course in accident prevention. Does this training require that supervisors have knowledge of OSHA's maritime rules?

Answer: Although not specifically required, knowledge of applicable rules is one of the recommended topics for the course. Violations are more likely to occur when supervisors are not familiar with the protective safety and health rules of 29 CFR Part 1917 and 29 CFR Part 1918.

Question 81: 29 CFR 1918.100(c) *Alarm system* states, "The employer shall establish an employee alarm system that provides warning for necessary emergency action or for reaction time for safe escape of employees from the workplace or the immediate work area, or both." Would a verbal alarm system be acceptable?

Answer: Verbal alarms are acceptable provided that all affected employees can be reached immediately. Verbal alarms, however, would not be appropriate to provide warning for emergency action where the worksite is so large or spread out that employees working at far distances would not hear the verbal signal.