COMMONWEALTH OF PUERTO RICO
DEPARTMENT OF LABOR AND HUMAN RESOURCES
Office of the Secretary
Hato Rey, Puerto Rico

Departament of State

Núm. 6781
Date: February 27, 2004

Approved: José Miguel Izquierdo Encarnación
Secretary of State

RESOLUTION

By: Giselle Romero García
Assistant Secretary for Services

I, Víctor Rivera Hernández, Secretary of Labor and Human Resources, pursuant to the authority conferred by Section 8 of the Puerto Rico Occupational Safety and Health Act, Number 16 of August 5, 1975 as amended (29 LPRA 361 et. seq.), hereby amend the Puerto Rico Occupational Safety and Health Regulation, Number Twelve (Part 1915, 1916, 1917 and 1918) approved on February 1, 1978 and amended on March 23, September 30, 1983; March 16, 1987, April 8, September 28, 1988; February 13, 1990; March 10, September 30, 1993; March 23, June 21, November 23, 1994, January 18, 1995, February 28, November 13, 1996, April 16, 1997, November 16, 1998, March 3, August 5, 1999, January 31, 2000 and May 21, 2001.

Occupational Safety and Health Standards for Shipyard Employment; as published in the Federal Register, Vol. 67 FR, No. 128 of July 3, 2002, (44533-44546).

Part 12 OSH 1915-18

The adoption of this amendment will be effective 30 days after it's filing with the Department of State.

Given at San Juan, Puerto Rico on this 23 DEC 2002

Víctor Rivera Hernández
Secretary

DEPARTMENT OF LABOR

Occupational Safety and Health Administration

29 CFR Part 1915

Occupational Safety and Health Standards for Shipyard Employment

AGENCY: Occupational Safety and Health Administration (OSHA), Labor.

ACTION: Final rule; technical amendments.

SUMMARY: The Occupational Safety and Health Administration (OSHA) is publishing technical amendments to its Shipyard Employment standards. These standards contain a number of minor typographical, grammatical and other errors. This document corrects those errors, as well as several inaccurate cross-references in these standards. The cross-references are being changed because the referenced section numbers have changed or been removed as a result of prior revisions to OSHA's Shipyard Employment rules. The technical amendments and corrections being published today are not substantive in nature; they will not impose additional compliance obligations on employers or reduce the protections provided to workers by these standards.

DATES: Effective on July 3, 2002. The incorporation by reference of certain publications listed in this rule is approved by the Director of the Federal Register as of July 3, 2002.

FOR FURTHER INFORMATION CONTACT: Amy Agro Wangdahl, Office of Maritime Safety Standards, Room N 3609, 200 Constitution Avenue, NW, Washington, DC 20210, Telephone (202) 693–2060 (not a toll-free call).

SUPPLEMENTARY INFORMATION: This document makes technical amendments and corrections to various standards codified in 29 CFR Part 1915. In accordance with the rulemaking provisions of the Administrative Procedure Act (5 U.S.C. 553) and 29 CFR 1911.5, OSHA hereby finds good cause to publish these amendments and corrections without any further delay or public procedure.

The types of amendments addressed in this correction notice fall into four basic categories. However, a majority of the amendments contain more than one correction, and may thus fall into more than one of these categories.

The first category involves the correction of errors where text was inadvertently omitted or words were incorrectly spelled. In these editorial corrections, words such as "a," "the," "or," "are," and "an" are added to make complete sentences. Spelling and grammatical errors such as inappropriate hyphens, missing periods, misplaced quotation marks and misspelled words are also corrected. In addition, section headings and other portions of the standards are made consistent with each other. The second category consists of corrections of incorrect citations or cross-references. Some of these errors occurred in 1995 when OSHA published the revised Subpart I, Personal Protective Equipment 61 FR 26352).

The third category includes minor clarifications of regulatory text to reflect the Agency's regulatory intent more accurately. Amendments in this category include, for example, the addition of a word to clarify the meaning of a regulatory provision. For example, in § 1915.165(a), the phrase "also know as chain stoppers" was inserted after "devil claws" for further clarification. The fourth category of amendments includes corrections of errors that were made when converting from English units of measure to metric units. These include corrections of errors in conversion calculations, changes in units of measure for consistency, and changes to report the results of calculations to the second decimal place for the sake of consistency.

Technical Amendments: The amendments and corrections made to the Shipyard Employment Standards are explained below in two tables. The first table includes miscellaneous corrections of typographical, grammatical and metric conversion errors. The second table includes the remainder of the amendments, which correct incorrect citations and cross references and clarify regulatory text. In both tables, the changes will be highlighted.

TABLE 1.—TYPOGRAPHICAL AND GRAMMATICAL CHANGES

Current text	Amended text
§ 1915.4 (k) The term "shipbuilding" ns the construction of a vessel including the installation of machinery and equipment.	(k) The term "shipbuilding" means the construction of a vessel including the installation of machinery and equipment.
§ 1915.5(d)(1)(v) ANSI 87.1–1979 Practice for Occupational and Educational Eye and Face Protection, IBR approved for § 1915.153(b)(2).	(d)(1)(v) ANSI Z87.1–1979 Practice for Occupational and Educational Eye and Face Protection, IBR approved for §1915.153(b)(2).
Note: For flammable liquids with flash points above 150 deg. F (65.6 deg. C), see paragraph (b) of this section.	**Note to paragraph (a)(1)(iv):** For flammable liquids with flash points above 150 deg. F (65.6 deg. C), see paragraph (b) of this section.
§ 1915.14(b)(1)(iii) The engine room and boiler spaces for which a Marine Chemist or a Coast Guard authorized person certificate is not required under paragraph (a)(1)(i) of this section, and.	(b)(1)(iii) The engine room and boiler spaces for which a Marine Chemist or a Coast Guard authorized person certificate is not required under paragraph (a)(1)(i) of this section.
Note to 1915.14: See appendix A for additional information relevant to performing hot work safely.	**Note to § 1915.14:** See appendix A of this subpart for additional information relevant to performing hot work safely.
§ 1915.15(c) *Tests to maintain the conditions of a Marine Chemist's or Coast Guard authorized person's certificates.* A competent person shall visually inspect and test each space certified as "Safe for Workers" or "Safe for Hot Work," as often as necessary to ensure that atmospheric conditions within the space is maintained within the conditions established by the certificate after the certificate has been issued.	(c) *Tests to maintain the conditions of a Marine Chemist's or Coast Guard authorized person's certificates.* A competent person shall visually inspect and test each space certified as "Safe for Workers" or "Safe for Hot Work," as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the certificate after the certificate has been issued.
§ 1915.15(e) Tests to maintain a competent person's findings	(e) *Tests to maintain a competent person's findings*
§ 1915.35(b)(2) If the ventilation fails or if the concentration of solvent vapors rises above ten (10) percent of the lower explosive limit, painting shall be stopped and the compartment shall be evacuated until the concentration again falls below ten (10) percent of the lower explosive limit. If the concentration does not fall when painting is stopped, additional ventilation to bring the concentration down to ten (10) percent of the lower explosive limit shall be provided.	(b)(2) If the ventilation fails or if the concentration of solvent vapors reaches or exceeds ten (10) percent of the lower explosive limit, painting shall be stopped and the compartment shall be evacuated until the concentration again falls below ten (10) percent of the lower explosive limit. If the concentration does not fall when painting is stopped, additional ventilation to bring the concentration to below ten (10) percent of the lower explosive limit shall be provided.

TABLE 1.—TYPOGRAPHICAL AND GRAMMATICAL CHANGES—Continued

Current text	Amended text
§ 1915.51(d)(2)(i) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials.	(d)(2)(i) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials.
§ 1915.71(e)(2)(ii) Ladders over 16 feet long and up to and including those 20 feet long shall have side rails of not less than 1 5/16 × 3 inch lumber.	(e)(2)(ii) Ladders over 16 feet long and up to and including those 20 feet long shall have side rails of not less than 1 5/16 × 3 inch lumber.
§ 1915.71(e)(9) Platform planking shall be in accordance with the requirements of paragraph (i) of this section, except that width of the platform planking shall not exceed the distance between the siderails.	(e)(9) Platform planking shall be in accordance with the requirements of paragraph (i) of this section, except that width of the platform planking shall not exceed the distance between the side rails
§ 1915.71(f)(8) No more than two men shall be permitted to work at one time on a swinging scaffold built to the minimum specifications contained in this paragraph. Where heavier construction is used, the number of men permitted to work on the scaffold shall be determined by the size and the safe working load of the scaffold	(f)(8) No more than two persons shall be permitted to work at one time on a swinging scaffold built to the minimum specifications contained in this paragraph. Where heavier construction is used, the number of persons permitted to work on the scaffold shall be determined by the size and the safe working load of the scaffold
§ 1915.72(a)(6) Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of the American National Standards Institute Safety Code for Portable Wood Ladders, A14.1–1975.	(a)(6) Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of the American National Standards Institute Safety Code for Portable Wood Ladders, A14–1975
§ 1915.72(c)(1)(iii) Cleats shall be nailed to each rail with five 10d common wire nails or fastened with through bolts or other fastenings of equivalent strength	(c)(1)(iii) Cleats shall be nailed to each rail with five 10d common wire nails or fastened with through bolts or other fasteners of equivalent strength.
§ 1915.74(a)(2) Each side of such gangway, and the turn table if used, shall have a railing with a minimum height of approximately 33 inches measured perpendicularly from rail to walking surface at the stanchion, with a mid rail	(a)(2) Each side of such gangway, and the turn table if used, shall have a railing with a minimum height of approximately 33 inches measured perpendicularly from rail to walking surface at the stanchion, with a midrail.
§ 1915.75(b) Each side of such gangway, ramp or permanent stairway, including those which are used for access to wing walls from dry dock floors, shall have a railing with a mid rail.	(b) Each side of such gangway, ramp or permanent stairway, including those which are used for access to wing walls from dry dock floors, shall have a railing with a midrail.
§ 1915.75(d) Railings approximately 42 inches in height, with a mid rail, shall be provided on the edges of wing walls of floating dry docks and on edges of graving docks	(d) Railings approximately 42 inches in height, with a midrail, shall be provided on the edges of wing walls of floating dry docks and on edges of graving docks.
§ 1915.75(e) When employees are working on the floor of a floating dry dock where they are exposed to the hazard of falling into the water, the end of the dry dock shall be equipped with portable stanchions and 42 inch railings with a mid rail. When such a railing would be impracticable or ineffective, other effective means shall be provided to prevent men from falling into the water	(e) When employees are working on the floor of a floating dry dock where they are exposed to the hazard of falling into the water, the end of the dry dock shall be equipped with portable stanchions and 42 inch railings with a midrail. When such a railing would be impracticable or ineffective, other effective means shall be provided to prevent employees from falling into the water.
§ 1915.77(a) Paragraphs (b) through (d) of this section shall apply to ship repairing, shipbuilding operations and shall not apply to shipbreaking	(a) Paragraphs (b) through (d) of this section shall apply to ship repairing shipbuilding operations, and shall not apply to shipbreaking
§ 1915.112(c)(3) Interlink wear, not accompanied by stretch in excess of 5 percent, shall be noted and the chain removed from service when maximum allowable wear at any point of link, as indicated in Table G–9 in 1915.18 has been reached	(c)(3) Interlink wear, not accompanied by stretch in excess of 5 percent, shall be noted and the chain removed from service when maximum allowable wear at any point of link, as indicated in Table G–9 in § 1915.118 has been reached.
§ 115(d) Accessible areas within the swing radius of the outermost part of the body of a revolving derrick or crane wither permanently or temporarily mounted, shall be guarded in such a manner as to prevent an employee from being in such a position as to be struck by the crane or caught between the crane and fixed parts of the vessel or of the crane itself	(d) Accessible areas within the swing radius of the outermost part of the body of a revolving derrick or crane whether permanently or temporarily mounted, shall be guarded in such a manner as to prevent an employee from being in such a position as to be struck by the crane or caught between the crane and fixed parts of the vessel or of the crane itself.
§ 1915.118 Table E–1 Heading 2nd & 3rd columns under "Light Duty" "24 or less" "24 to 40" "40 to 60"	"≤ 24" "> 24 ≤ 40" "> 40 ≤ 60".
§ 1915.118 Table E–3 Heading 2nd & 3rd columns under "Height in Feet" "Up to 10" "10 to 16" "16 to 20"	"≤10" ">10 ≤16" ">16 ≤ 20"
§ 1915.118, in the second column of Table G–1, Diameter in Inches, 1 15/32	15/32
1 13/16	13/16
§ 1915.118, in table G–3 in column "B" under the heading "Vertical," 621	61
§ 1915.118, in table G–7, in the second column under the heading "Single leg," 27.6	27.6
§ 1915.118, in table G–9, in the first column under "Chain size in inches," 1⅛	1⅛
In the second column, under "Maximum allowable wear in fraction of inches" 1/64	1/64
1/32	1/32

TABLE 1.—TYPOGRAPHICAL AND GRAMMATICAL CHANGES—Continued

Current text	Amended text
§ 1915.131(c) All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum are required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum are required to allow proper retraction and contact with the work.	(c) All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work.
§ 1915.131(d) The moving parts of machinery on dry dock shall be guarded.	(d) The moving parts of machinery on a dry dock shall be guarded.
§ 1915.131(g) Headers, manifolds and widely spaced hose connection on compressed air lines shall bear the work "air" in letters at least 1 inch high, which shall be painted either on the manifold or separate hose connections, or on signs permanently attached to the manifolds or connections	(g) Headers, manifolds and widely spaced hose connections on compressed air lines shall bear the word "air" in letters at least 1 inch high, which shall be painted either on the manifolds or separate hose connections, or on signs permanently attached to the manifolds or connections.
§ 1915.134(c) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the United States of America Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1	(c) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the United States of America Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1–1964.
§ 1915.152(e)(2) The employer shall ensure that each effected employee demonstrates the ability to use PPE properly before being allowed to perform work requiring the use of PPE	(e)(2) The employer shall ensure that each affected employee demonstrates the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

In amendments 25, 26, 27 and 29, there were many numerical mistakes made when converting English units to metric units. Rather than listing standard by standard, this is a listing of which standards are being corrected. together with the current and corrected measurements	Currently Reads	Changed To
§ 1915.158(b)(4)	22.2 Kn	22.24 Kn
§ 1915.159(a)(3)	13.3 Kn	13.34 Kn
§ 1915.159(a)(9)	1.8 m	1.83 m
§ 1915.159(b)(2)	140 kg	140.62 kg
§ 1915.159(b)(3)	4.1 cm	4.13 cm
§ 1915.159(b)(4)	113 kg	113.34 kg
§ 1915.159(b)(6)(iv)	8.89 Kn	8.9 Kn
The Note to paragraph (b)(6)	1.2 m	1.22 m
§ 1915.159(b)(7)	27 m	27.43 m
§ 1915.159(c)(1)(i)	10 Kn	10.01kn
§ 1915.159(c)(8)	10 cm	10.16 cm
§ 1915.160(a)(2)	136 kg	136.08 kg
§ 1915.160(b)(1)	5 cm	5.08 cm
§ 1915.160(b)(2)(i)	0.3 m	0.31 m
§ 1915.160 (b)(2)(ii)	2.3 m	2.29 m
Appendix B to Subpart I—throughout	46 cm	45.72 cm
	100 kg	99.79 kg
	1.6 kg	1.36 kg
	11.2 Kn	11.21 Kn
	30.5 cm	30.48 cm
	1 cm	1.02 mm
	96 cm	96.52 cm

Appendix A to Subpart I, paragraph 10	
Selection guidelines for foot protection.	10. *Selection guidelines for foot protection.*
(a) Safety shoes and boots ANSI Z41–1991 and provide impact and compression protection to the foot. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal protection should be provided, and in some other special situations electrical conductive or insulating safety shoes would be appropriate.	(a) Safety shoes and boots must meet ANSI Z41–1991 and provide impact and compression protection to the foot. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal (top of foot) protection should be provided, and in some other special situations electrical conductive or insulating safety shoes would be appropriate.
§ 1915.163(a)(1) The isolation and shutoff valves connecting the dead system with the life system or systems shall be secured, blanked, and tagged indicating that employees are working on the systems	(a)(1) The isolation and shutoff valves connecting the dead system with the live system or systems shall be secured, blanked, and tagged indicating that employees are working on the systems.
§ 1915.163(a)(2) Drain connections to atmosphere on all of the dead interconnecting systems shall be opened for visual observation of drainage	(a)(2) Drain connections to the atmosphere on all of the dead interconnecting systems shall be opened for visual observation of drainage.
§ 1915.165(a)(1) The devil claws shall be made fast to the anchor chains	(a)(1) The devil claws (also known as chain stoppers) shall be made fast to the anchor chains.
§ 1915.181(c) Deenergizing the circuit shall be accomplished by opening the circuit breaker, opening the switch, or removing the fuse, whichever is appropriate. The circuit breaker, switch, or fuse location shall be tagged to indicate that an employee is working on the circuit. Such tags shall not be removed nor the circuit energized until it it definitely determined that the work on the circuit has been completed	(c) Deenergizing the circuit shall be accomplished by opening the circuit breaker, opening the switch, or removing the fuse, whichever is appropriate. The circuit breaker, switch, or fuse location shall be tagged to indicate that an employee is working on the circuit. Such tags shall not be removed nor the circuit energized until it is definitely determined that the work on the circuit has been completed.

§ 1915.1000(d) *Computation formulae* .....

§ 1915.1001(d)(2) Asbestos hazards at a multi-employer work site shall be abated by the contractor who created or controls the source of asbestos contamination

§ 1915.1001(d)(4) All employers of eployees working adjacent to regulated areas established by another employer on a multi-employer work-site, shall take steps on a daily basis to ascertain the integrity of the enclosure and/or the effectiveness of the control method relied on by the primary asbestos contractor to assure that asbestos fibers do not migrate to such adjacent areas

§ 1915.1001(g)(5)(ii)(B)(*1*) Each glovebag shall be installed so that it completely covers the circumference of pipe or other structure where the work is to be done

§ 1915.1001(g)(5)(ii)(B)(*7*) Where system uses attached waste bag, such bag shall be connected to collection bag using hose or other material which shall withstand pressure of ACM waste and water without losing its integrity:

§ 1915.1001(g)(5)(ii)(B)(*8*) Sliding valve or other device shall separate waste bag from hose to ensure no exposure when waste bag is disconnected:

§ 1915.1001(g)(5)(iii)(A) *Specifications:* In addition to specifications for glove bag systems above, negative pressure glove bag systems shall attach HEPA vacuum system or other device to bag to prevent collapse during removal

§ 1915.1001(g)(8)(iii)(C) Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

§ 1915.1001(h)(1)(iv) During all Class II and III asbestos jobs where the employer does not produce a "negative exposure assessment".

§ 1915.1001

Table 1, first column

Not in excess of 1 f/cc (10) × PEL), or otherwise as required independent of exposure pursuant to paragraph (h)(2)(iv) of this section.

§ 1915.1001(i)(4)(i) The qualified person shall examine worksuits worn by employees at least once per workshift for rips or tears that may occur during performance of work.

§ 1915.1001(k)(3) Duties of employers whose employees perform work subject to this standard in or adjacent to areas containing ACM and PACM.

§ 1915.1001(k)(3)(ii) Before work under this standard is performed employers of employees who will perform such work shall inform the following persons of the location and quantity of ACM and/or PACM present at the work site and the precautions to be taken to insure that airborne asbestos is confined to the area.

§ 1915.1001(k)(5)(ii)(A) Having a completed inspection conducted pursuant to the requirements of AHERA (40 CFR Part 763, Subpart E) which demonstrates that the material is not ACM; or.

§ 1915.1001(k)(9)(vi) Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not yet been certified; and instruction in the recognition of damage, deterioration, and delamination of asbestos containing building materials. Such course shall take at least 2 hours.

§ 1915.1001(k)(9)(viii) The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by provisions in paragraphs (k)(9)(iii) through (vi) of this section, the employer shall ensure that each such employee is informed of the following:.

§ 1915.1001(o) *Qualified Person* (1) *General.* On all shipyard worksites covered by this standard, the employer shall designate a qualified person, having the qualifications and authorities for ensuring worker safety and health required by Subpart C, General Safety and Health Provisions for Construction (29 CFR 1926.20 through 1926.32).

Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory

Qualitative Fit Test Protocols.

I. Isoamyl Acetate Protocol .....

Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory

(d) *Computation formula.*

(d)(2) Asbestos hazards at a multi-employer worksite shall be abated by the contractor who created or controls the source of asbestos contamination.

(d)(4) All employers of employees working adjacent to regulated areas established by another employer on a multi-employer worksite, shall take steps on a daily basis to ascertain the integrity of the enclosure and/or the effectiveness of the control method relied on by the primary asbestos contractor to assure that asbestos fibers do not migrate to such adjacent areas.

(g)(5)(ii)(B)(*1*) Each glovebag shall be installed so that it completely covers the circumference of pipes or other structures where the work is to be done

(g)(5)(ii)(B)(*7*) Where a system uses an attached waste bag, such bag shall be connected to a collection bag using hose or other material which shall withstand the pressure of ACM waste and water without losing its integrity:

(g)(5)(ii)(B)(*8*) A sliding valve or other device shall separate the waste bag from the hose to ensure no exposure when the waste bag is disconnected:

(g)(5)(iii)(A) *Specifications:* In addition to the specifications for glove bag systems above, negative pressure glove bag systems shall attach the HEPA vacuum system or other device bag to prevent collapse during removal.

(g)(8)(iii)(C) Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via a covered dust-tight chute, crane or hoist, or placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

(h)(1)(iv) During all Class II and III asbestos jobs where the employer does not produce a "negative exposure assessment".

Not in excess of 1 f/cc (10 × PEL), or otherwise as required independent of exposure pursuant to paragraph (h)(2)(iv) of this section.

(i)(4)(i) The qualified person shall examine worksuits worn by employees at least once per workshift for rips or tears that may occur during the performance of work.

(k)(3) Duties of employers whose employees perform work subject to this standard in or adjacent to areas containing ACM and PACM.

(k)(3)(ii) Before work under this standard is performed employers of employees who will perform such work shall inform the following persons of the location and quantity of ACM and/or PACM present at the worksite and the precautions to be taken to insure that airborne asbestos is confined to the area.

(k)(5)(ii)(A) Having completed an inspection conducted pursuant to the requirements of AHERA (40 CFR Part 763, Subpart E) which demonstrates that the material is not ACM; or

(k)(9)(vi) Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material where the absence of asbestos has not yet been certified; and instruction in the recognition of damage, deterioration, and delamination of asbestos containing building materials. Such a course shall take at least 2 hours.

(k)(9)(viii) The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by the provisions in paragraphs (k)(9)(iii) through (vi) of this section, the employer shall ensure that each such employee is informed of the following:

(o) *Qualified Person* (1) *General.* On all shipyard worksites covered by this standard, the employer shall designate a qualified person, having the qualifications and authority for ensuring worker safety and health required by Subpart C, General Safety and Health Provisions for Construction (29 CFR 1926.20 through 1926.32).

I. *Isoamyl Acetate Protocol*

II. *Saccharin Solution Aerosol Protocol*	
B. Taste Threshold Screening	B. *Taste Threshold Screening.*
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
C. Fit test	
15. Successful completion of the test protocol shall allow the use of the half mask tested respirator in contaminated atmospheres up to 10 times the PEL of asbestos. In other words this protocol may be used assign protection factors no higher than ten.	15. Successful completion of the test protocol shall allow the use of the half mask tested respirator in contaminated atmospheres up to 10 times the PEL of asbestos. In other words this protocol may be used to assign protection factors no higher than ten.
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
III. *Irritant Fume Protocol Quantitative Fit Test Procedures*	
1. General.	
a. The method applies to the negative-pressure non-powered air-purifying respirators only.	a. The method applies to negative-pressure non-powered air-purifying respirators only.
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
III. *Irritant Fume Protocol Quantitative Fit Test Procedures*	
2. *Definitions*	2. *Definitions.*
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
III. *Irritant Fume Protocol Quantitative Fit Test Procedures*	
5. *Exercise Regime.* Prior to entering the test chamber, the test subject shall be given complete instructions as to her/his part in the test procedures.	5. Exercise Regime. Prior to entering the test chamber, the test subject shall be given complete instructions as to her/his part in the test procedures.
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
III. *Irritant Fume Protocol Quantitative Fit Test Procedures*	
6. The test shall be terminated whenever any single peak penetration exceeds 5 percent for half-masks and 1 percent for full facepieces. The test subject may be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate. (See paragraph 4.h).	6. Test Termination. The test shall be terminated whenever any single peak penetration exceeds 5 percent for half-masks and 1 percent for full facepieces. The test subject may be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate. (See paragraph 4.h)
Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory	
III. *Irritant Fume Protocol Quantitative Fit Test Procedures*	
9. Other requirements	9. Other requirements
f. Filters used for qualitative or quantitative fit testing shall be replaced weekly, whenever increased breathing resistance is encountered or when the test agent has altered the integrity of the filter media.	f. Filters used for qualitative or quantitative fit testing shall be replaced weekly, whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily or sooner if there is any indication of breakthrough by the test agent.
Organic vapor cartridges/canisters, shall be replaced daily or sooner if there is any indication of breakthrough by the test agent.	

TABLE 2.—INCORRECT CITATIONS, CROSS REFERENCES AND CLARIFICATION OF REGULATORY TEXT

Text as it currently reads	Amended text	Explanation
§ 1915.4(t) The term "portable unfired pressure vessel" means any pressure container or vessel used aboard ship, other than the ship's equipment, containing liquids or gases under pressure, excepting pressure vessels built to ICC regulations under 49 CFR Part 178, Subparts C and H.	(t) The term "portable unfired pressure vessel" means any pressure container or vessel used aboard ship, other than the ship's equipment, containing liquids or gases under pressure, excepting pressure vessels built to Department of Transportation regulations under 49 CFR Part 178, Subparts C and H.	Correcting a reference to an agency.
§ 1915.5(d)(1)(i) ANSI A14.1–1959 Safety Code for Portable Wood Ladders, IBR approved for § 1915.72(a)(6).	(d)(1)(i) ANSI A14.1–1975 Safety Code for Portable Wood Ladders, IBR approved for § 1915.72(a)(6).	Corrects inaccurate date of the incorporated ANSI standard.
§ 1915.5(d)(1)(ii) ANSI A14.2–1956 Safety Code for Portable Metal Ladders, IBR approved for Sec. 1995.72(a)(4).	(d)(1)(ii) ANSI A14.2–1972 Safety Code for Portable Metal Ladders. IBR approved for § 1915.72(a)(4).	Corrects inaccurate date of the incorporated ANSI standard and corrects the reference to § 1915.
§ 1915.14(a)(1)(iv) Exception: On dry cargo, miscellaneous and passenger vessels and in the landside operations within spaces which meet the standards for oxygen, flammability and toxicity in Sec. 1915.12, but are adjacent to spaces containing flammable gases or liquids, as long as the gases or liquids have a flash point below 150 deg. F (65.6 deg. C) and the distance between such spaces and the work is 25 feet (7.5m) or greater.	(a)(1)(iv) Exception: On dry cargo, miscellaneous and passenger vessels and in the landside operations within spaces which meet the standards for oxygen, flammability and toxicity in § 1915.12, but are adjacent to spaces containing flammable gases or liquids, with a flash point below 150 °F (65.6 °C) when the distance between such spaces and the work is 25 feet (7.62 m) or greater.	Language changed to ensure the intent of the Agency, in addition to an incorrect measurement.

TABLE 2.—INCORRECT CITATIONS, CROSS REFERENCES AND CLARIFICATION OF REGULATORY TEXT—Continued

Text as it currently reads	Amended text	Explanation
§ 1915.14(b)(1)(iv) Vessels and vessel sections for which a Marine Chemist or Coast Guard authorized person certificate is not required under paragraph (a)(1)(iv) of this section, and	(b)(1)(iv) Vessels and vessel sections for which a Marine Chemist or Coast Guard authorized person certificate is not required under paragraph (a)(1)(i) of this section,	Corrects inaccurate reference.
Appendix A to Subpart B: *Section 1915.12(a)(4)*	*Section 1915.12(a)(3)*	Previous rulemaking combined § 1915.12(a)(3) and (a)(4) to create the current § 1915.12(a)(3). Therefore, the correct reference is § 1915.12(a)(3).
Appendix A to Subpart B: 2nd paragraph under *Section 1915.12(a)(4)* An oxygen content of 19.5 percent can support life and is adequate for entry. However, any oxygen level less than 20.8 percent and greater than 19.5 percent level should also alert the competent person to look for the causes of the oxygen deficiency and to correct them prior to entry.	*Section 1915.12(a)(4)* An oxygen content of 19.5 percent can support life and is adequate for entry. However, any oxygen level greater than 20.8 percent by volume should alert the competent person to look for the cause of the oxygen-enriched atmosphere and correct it prior to entry. In addition, any oxygen level lower than 19.5 percent level should also alert the competent person to look for the cause of the oxygen-deficiency and correct it prior to entry.	As currently written, this provision would require a competent person to look for oxygen deficiency or oxygen enriched atmosphere that would occur between 19.5 percent and 20.8 percent, which is the proper oxygen content for entry. This was changed to reflect the proper oxygen content that would signify an oxygen deficient or oxygen enriched atmosphere.
Appendix A to Subpart B: *Section 1915.12(b)(4),*	*Section 1915.12(b)(3),*	See Section 1915.12(a)(4).
Appendix A to Subpart B: *Section 1915.14(a) and (b) Hot work.* This is a reminder that other sections of the OSHA shipyard safety and health standards in part 1915 should be reviewed prior to starting any hot work. Most notably, Subpart D, Welding, Cutting and Heating, places additional restrictions on hot work: The requirements of 1915.51 and 1915.53 must be met before hot work is begun on any metal that is toxic or is covered by a preservative coating respectively; the requirements of 1915.54 must be met before welding, cutting, or heating is begun on any structural voids.	*Section 1915.14(a) and (b) Hot work.* This is a reminder that other sections of the OSHA shipyard safety and health standards in part 1915 should be reviewed prior to starting any hot work. Most notably, Subpart D, Welding, Cutting and Heating, places additional restrictions on hot work: The requirements of §§ 1915.51 and 1915.53 must be met before hot work is begun on any metal that is toxic or is covered by a preservative coating respectively; the requirements of § 1915.54 must be met before welding, cutting, or heating is begun on any hollow containers or structures not covered by § 1915.12.	Language added for clarification and consistency.
§ 1915.51(c)(3) When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by air line respirators in accordance with the requirements of 1915.152(a), and an employee on the outside of such a confined space shall be assigned to maintain communication with those working within it and to aid them in an emergency.	(c)(3) When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by air line respirators in accordance with the requirements of § 1915.152, and an employee on the outside of such a confined space shall be assigned to maintain communication with those working within it and to aid them in an emergency.	Corrects paragraph reference to reflect section and paragraph numbering changes made in 1996 revision of Subpart I.
§ 1915.51(d)(1) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with either general mechanical or local exhaust ventilation meeting the requirements of paragraph (a) of this section.	(d)(1) Welding, cutting or heating in any enclosed spaces abroad the vessel involving the metals specified below shall be performed with either general mechanical or local exhaust ventilation meeting the requirements of paragraph (b) of this section.	Corrects an incorrect reference.
§ 1915.51(d)(2) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with local exhaust ventilation in accordance with the requirements of paragraph (b) of this section or employees shall be protected by air line respirators in accordance with the requirements of 1915.152(a).	(d)(2) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with local exhaust ventilation in accordance with the requirements of paragraph (b) of this section or employees shall be protected by air line respirators in accordance with the requirements of § 1915.154.	See § 1915.51(c)(3).

TABLE 2.—INCORRECT CITATIONS, CROSS REFERENCES AND CLARIFICATION OF REGULATORY TEXT—Continued

Text as it currently reads	Amended text	Explanation
§ 1915.51(d)(3) Employees performing such operations in the open air shall be protected by filter type respirators in accordance with the requirements of paragraphs (a) and (d)(2)(iv) of 1915.152, except that employees performing such operations on beryllium-containing base or filler metals shall be protected by air line respirators in accordance with the requirements of 1915.152(a).	(d)(3) Employees performing such operations in the open air shall be protected by filter type respirators, and employees performing such operations on beryllium-containing base or filler metals shall be protected by air line respirators, in accordance with the requirements of § 1915.154.	See § 1915.51(c)(3).
§ 1915.51(e)(1)(ii) Helpers and other employees in the area not protected from the arc by screening as provided in 1915.56(e) shall be protected by filter lenses meeting the requirements of 1915.151(a) and (c). When two or more welders are exposed to each other's arc, filter lens goggles of a suitable type meeting the requirements 1915.151(a) and (c) shall be worn under welding helmets or hand shields to protect the welder against flashes and radiant energy when either the helmet is lifted or the shield is removed.	(e)(1)(ii) Helpers and other employees in the area not protected from the arc by screening as provided in 1915.56(e) shall be protected by filter lenses meeting the requirements of § 1915.153. When two or more welders are exposed to each other's arc, filter lens goggles of a suitable type meeting the requirements of § 1915.153 shall be worn under welding helmets or hand shields to protect the welder against flashes and radiant energy when either the helmet is lifted or the shield is removed.	See § 1915.51(c)(3).
§ 1915.51(f)(2) Employees performing any type of welding, cutting or heating shall be protected by suitable eye protective equipment in accordance with the requirements of 1915.151(a) and (c).	(f)(2) Employees performing any type of welding, cutting or heating shall be protected by suitable eye protective equipment in accordance with the requirements of § 1915.153.	See § 1915.51(c)(3).
§ 1915.53(d)(1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application or the employees shall be protected by air line respirators meeting the requirements of 1915.152(a).	(d)(1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application or the employees shall be protected by air line respirators meeting the requirements of § 1915.154.	See § 1915.51(c)(3)
§ 1915.53(d)(2) In the open air, employees shall be protected by a filter type respirator in accordance with the requirements of 1915.152 (a) and (d).	(d)(2) In the open air, employees shall be protected by a filter type respirator in accordance with the requirements of § 1915.154.	See § 1915.51(c)(3).
§ 1915.71(j)(3) Rails may be omitted where the structure of the vessel prevents their use. When rails are omitted, employees working more than 5 feet above solid surfaces shall be protected by safety belts and life lines meeting the requirements of 1915.154(b), and employees working over water shall be protected by buoyant work vests meeting the requirements of 1915.154(a).	(j)(3) Rails may be omitted where the structure of the vessel prevents their use. When rails are omitted, employees working more than 5 feet above solid surfaces shall be protected by safety belts and life lines meeting the requirements of § 1915.159 and § 1915.160, and employees working over water shall be protected by buoyant work vests meeting the requirements of § 1915.158(a).	See § 1915.51(c)(3).
§ 1915.73(e) When employees are working near the unguarded edges of decks of vessels afloat, they shall be protected by personal flotation devices, meeting the requirements of 1915.154(a).	(e) When employees are working near the unguarded edges of decks of vessels afloat, they shall be protected by personal flotation devices, meeting the requirements of § 1915.158(a).	See § 1915.51(c)(3).
§ 1915.74(c)(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp in accordance with requirements of paragraph (a)(7) of this section shall be provided.	(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp meeting the requirements of paragraph (c)(1) of this section or a safe walkway meeting the requirements of paragraph (a)(7) of this section shall be provided.	A portion of the first sentence was inadvertently removed from previous printings. As currently written, the reference of (a)(7) is to the walkway, not the ramp requirements, and "a safe walkway" has been added back in.
§ 1915.77(c) When employees are working aloft, or elsewhere at elevations more than 5 feet above a solid surface, either scaffolds or a sloping ladder, meeting the requirements of this subpart, shall be used to afford safe footing, or the employees shall be protected by safety belts and lifelines meeting the requirements of 1915.154(b).	(c) When employees are working aloft, or elsewhere at elevations more than 5 feet above a solid surface, either scaffolds or a sloping ladder, meeting the requirements of this subpart, shall be used to afford safe footing, or the employees shall be protected by safety belts and lifelines meeting the requirements of § 1915.159 and § 1915.160.	See § 1915.51(c)(3).

TABLE 2.—INCORRECT CITATIONS, CROSS REFERENCES AND CLARIFICATION OF REGULATORY TEXT—Continued

Text as it currently reads	Amended text	Explanation
§ 1915.77(e) When employees are boarding, leaving, or working from small boats or floats, they shall be protected by personal flotation devices meeting the requirements of 1915.154.	(e) When employees are boarding, leaving, or working from small boats or floats, they shall be protected by personal flotation devices meeting the requirements of § 1915.158(a).	See § 1915.51(c)(3).
§ 1915.92(e) Employees shall not be permitted to enter dark spaces without a suitable portable light. The use of matches and open flame lights is prohibited. In nongas free spaces, portable lights shall meet the requirements of 1915.13.	(e) Employees shall not be permitted to enter dark spaces without a suitable portable light. The use of matches and open flame lights is prohibited. In nongas free spaces, portable lights shall meet the requirements of 1915.13(b)(9).	The reference has been corrected to be more specific.
§ 1915.97(a) The employer shall provide all necessary controls, and the employees shall be protected by suitable personal protective equipment against the hazards identified under 1915.99 of this part and those hazards for which specific precautions are required in Subparts B, C, and D of this part.	(a) The employee shall provide all necessary controls, and the employees shall be protected by suitable personal protective equipment against the hazards identified under § 1915.1200 of this part and those hazards for which specific precautions are required in Subparts B, C, and D of this part.	Corrects paragraph reference to reflect section and paragraph numbering changes made in 1994 when OSHA redesignated § 1915.99 to § 1915.1200 to provide similar section numbers for the same topics in the general industry standards.
§ 1915.116(n) A section of hatch through which materials or equipment are being raised, lowered, moved, or otherwise shifted manually or by a crane, winch, hoist, or derrick, shall be completely opened. The beam or pontoon left in place adjacent to an opening shall be sufficiently lashed, locked or otherwise secured to prevent it from being unshipped so that it cannot be displaced by accident.	(n) A section of hatch through which materials or equipment are being raised, lowered, moved, or otherwise shifted manually or by a crane, winch, hoist, or derrick, shall be completely opened. The beam or pontoon left in place adjacent to an opening shall be sufficiently lashed, locked or otherwise secured to prevent it from moving so that it cannot be displaced by accident.	Language added for clarification.
§ 1915.158(a)(1) PFDs (life preservers, life jackets, and work vests) worn by each affected employee shall be any United States Coast Guard (USCG) approved and marked Type I PFD, type II PFD, or Type III PFD; of PFDs shall be a USCG approved Type V PFD which is marked for use as a work vest, for commercial use, or for use on vessels. USCG approval is pursuant to 46 CFR part 160, subpart Q, Coast Guard Lifesaving Equipment Specifications.	(1) PFDs (life preservers, life jackets, or work vests) worn by each affected employee must be United States Coast Guard (USCG) approved pursuant to 46 CFR part 160 (Type I, II, III, or V PFD) and marked for use as a work vest, for commercial use, or for use on vessels. USCG approval is pursuant to 46 CFR part 160, Coast Guard Lifesaving Equipment Specifications.	The language has been changed to be consistent with § 1917.95(b)(2) and § 1917.95(b)(2) when addressing Personal Flotation Devices (PFD). The new language also clarifies the requirement for PFDs.
§ 1915.172(a) Portable, unfired pressure vessels, built after the effective date of this regulation shall be marked and reported indicating that they have been designed and constructed to meet the standards of the American Society of Mechanical Engines Boiler and Pressure Vessel Code, Section XIII, Rules for Construction of Unfired Pressure Vessels, 1963.	(a) Portable, unfired pressure vessels, built after the effective date of this regulation, shall be marked and reported indicating that they have been designed and constructed to meet the standards of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Rules for Construction of Unfired Pressure Vessels 1963. They shall be subjected, to a hydrostatic pressure test of one and one-half times the working pressure of the vessels.	This change corrects the section reference to the ASME Boiler and Pressure Vessel Code.

Good Cause Exception: The corrections and editorial changes in this document are not substantive, and they will become effective on July 3, 2002. OSHA finds good cause for this rule to take effect upon publication, so that these nonsubstantive amendments will be incorporated in the 2002 edition of the CFR. This will increase the convenience to the public in using the new edition of CFR. See 5 U.S.C. 553(d).

For the same reasons, it is certified that no substantive changes are being made which would require analysis under the Regulatory Flexibility Act or under Executive Order 12291.

List of Subjects in 29 CFR Part 1915

Hazardous substances, Incorporation by reference, Longshore and harbor workers, Occupational safety and health, Reporting and recordkeeping, Shipyards.

Authority: This document has been prepared under the direction of John L. Henshaw, Assistant Secretary of Labor for Occupational Safety and Health, U.S. Department of Labor, 200 Constitution Avenue, NW, Washington, DC 20210. These technical amendments are made pursuant to sections 4, 6 and 8 of the Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657), section 41 of the Longshore and Harbor Workers' Compensation Act (33 U.S.C. 941), Secretary of Labor's Order No. 3–2000 (65 FR 50017), and 29 CFR part 1911.

Signed at Washington, DC this 26th day of June, 2002.

John L. Henshaw,

Assistant Secretary of Labor.

Accordingly, 29 CFR part 1915 is amended as set forth below:

PART 1915—OCCUPATIONAL SAFETY AND HEALTH STANDARDS FOR SHIPYARD EMPLOYMENT

1. The authority citation for part 1915 is revised to read as follows:

Authority: Sec. 41, Longshore and Harbor Workers' Compensation Act (33 U.S.C. 941);

secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657); Secretary of Labor's Order No. 12–71 (36 FR 8754), 8–76 (41 FR 25059), 9–83 (48 FR 35736), 1–90 (55 FR 9033), 6–96 (62 FR 111), or 3–2000 (65 FR 50017) as applicable.

2. In § 1915.4, revise paragraphs (k) and (t) to read as follows:

§ 1915.4 Definitions.

* * * * *

(k) The term *shipbuilding* means the construction of a vessel including the installation of machinery and equipment.

* * * * *

(t) The term *portable unfired pressure vessel* means any pressure container or vessel used aboard ship, other than the ship's equipment, containing liquids or gases under pressure, excepting pressure vessels built to Department of Transportation regulations under 49 CFR part 178, subparts C and H.

* * * * *

3. In § 1915.5, revise paragraphs (d)(1)(i), (d)(1)(ii), and (d)(1)(v) to read as follows:

§ 1915.5 Incorporation by reference.

* * * * *

(d)(1)* * *

(i) ANSI A14.1–1975 Safety Requirements for Portable Wood Ladders, IBR approved for § 1915.72(a)(6).

(ii) ANSI A14.2–1972 Safety Requirements for Portable Metal Ladders, IBR approved for § 1915.72(a)(4).

* * * * *

(v) ANSI Z87.1–1979 Practice for Occupational and Educational Eye and Face Protection, IBR approved for § 1915.153(b)(2).

* * * * *

4. In § 1915.14, revise paragraph (a)(1)(iv), the note to paragraph (a)(1)(iv), paragraphs (b)(1)(iii), (b)(1)(iv), and the note to § 1915.14 to read as follows:

§ 1915.14 Hot work.

(a) * * * (1) * * *

(iv) Exception: On dry cargo, miscellaneous and passenger vessels and in the landside operations within spaces which meet the standards for oxygen, flammability and toxicity in § 1915.12, but are adjacent to spaces containing flammable gases or liquids, with a flash point below 150 °F (65.6 °C) when the distance between such spaces and the work is 25 feet (7.62 m) or greater.

Note to Paragraph (a)(1)(iv): For flammable liquids with flash points above 150 °F (65.6 °C), see paragraph (b) of this section.

* * * * *

(b) * * * (1) * * *

(iii) The engine room and boiler spaces for which a Marine Chemist or a Coast Guard authorized person certificate is not required under paragraph (a)(1)(i) of this section (iv) Vessels and vessel sections for which a Marine Chemist or Coast Guard authorized person certificate is not required under paragraph (a)(1)(iv) of this section.

* * * * *

Note to § 1915.14: See appendix A of this subpart for additional information relevant to performing hot work safely.

5. In § 1915.15, revise paragraph (c) and the heading to paragraph (e) to read as follows:

§ 1915.15 Maintenance of safe conditions.

* * * * *

(c) *Tests to maintain the conditions of a Marine Chemist's or Coast Guard authorized person's certificates.* A competent person shall visually inspect and test each space certified as "Safe for Workers" or "Safe for Hot Work," as often as necessary to ensure that atmospheric conditions within that space are maintained within the conditions established by the certificate after the certificate has been issued.

* * * * *

(e) *Tests to maintain a competent person's findings.* * * *

* * * * *

6. Amend Appendix A to Subpart B as follows:

a. Revise the heading of *Section 1915.12(a)(4)* to read *Section 1915.12(a)(3);*

b. Revise the second paragraph under *Section 1915.12(a)(3);*

c. Revise the heading of *Section 1915.12(b)(4)* to read *Section 1915.12(b)(3);*

d. Revise the paragraph titled *Section 1915.14(a) and (b) Hot Work*

The revisions read as follows:

Appendix A to Subpart B—Compliance Assistance Guidelines for Confined and Enclosed Spaces and Other Dangerous Atmospheres

* * * * *

Section 1915.12(a)(3).

* * *

An oxygen content of 19.5 percent can support life and is adequate for entry. However, any oxygen level greater than 20.8 percent by volume should alert the competent person to look for the cause of the oxygen-enriched atmosphere and correct it prior to entry. In addition, any oxygen level lower than 19.5 percent level should also alert the competent person to look for the cause of the oxygen-deficiency and correct it prior to entry.

Section 1915.12(b)(3) Flammable atmospheres. * * *

* * * * *

Section 1915.14 (a) and (b) Hot work. This is a reminder that other sections of the OSHA shipyard safety and health standards in part 1915 should be reviewed prior to starting any hot work. Most notably, subpart D, Welding, Cutting and Heating, places additional restrictions on hot work. The requirements of §§ 1915.51 and 1915.53 must be met before hot work is begun on any metal that is toxic or is covered by a preservative coating respectively; the requirements of § 1915.54 must be met before welding, cutting, or heating is begun on any hollow containers or structures not covered by § 1915.12.

* * * * *

7. In § 1915.35, revise paragraph (b)(2) to read as follows:

§ 1915.35 Painting.

* * * * *

(b) * * *

(2) If the ventilation fails or if the concentration of solvent vapors reaches or exceeds ten (10) percent of the lower explosive limit, painting shall be stopped and the compartment shall be evacuated until the concentration again falls below ten (10) percent of the lower explosive limit. If the concentration does not fall when painting is stopped, additional ventilation to bring the concentration to below ten (10) percent of the lower explosive limit shall be provided.

* * * * *

8. In § 1915.51, revise paragraphs (c)(3), (d)(1) introductory text, (d)(2) introductory text, (d)(2)(i), (d)(3), (e)(1)(ii), and (f)(2) to read as follows:

§ 1915.51 Ventilation and protection in welding, cutting and heating.

* * * * *

(c) * * *

(3) When sufficient ventilation cannot be obtained without blocking the means of access, employees in the confined space shall be protected by air line respirators in accordance with the requirements of § 1915.154, and an employee on the outside of such a confined space shall be assigned to maintain communication with those working within it and to aid them in an emergency.

(d) *Welding, cutting or heating of metals of toxic significance.* (1) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with either general mechanical or local exhaust ventilation

meeting the requirements of paragraph (b) of this section:

* * * * *

(2) Welding, cutting or heating in any enclosed spaces aboard the vessel involving the metals specified below shall be performed with local exhaust ventilation in accordance with the requirements of paragraph (b) of this section or employees shall be protected by air line respirators in accordance with the requirements of § 1915.154:

(i) Metals containing lead, other than as an impurity, or metals coated with lead-bearing materials.

* * * * *

(3) Employees performing such operations in the open air shall be protected by filter type respirators, and employees performing such operations on beryllium-containing base or filler metals shall be protected by air line respirators, in accordance with the requirements of § 1915.154.

* * * * *

(e) *Inert-gas metal-arc welding.* (1) * * *

(ii) Helpers and other employees in the area not protected from the arc by screening as provided in § 1915.56(e) shall be protected by filter lenses meeting the requirements of § 1915.153. When two or more welders are exposed to each other's arc, filter lens goggles of a suitable type meeting the requirements of § 1915.153 shall be worn under welding helmets or hand shields to protect the welder against flashes and radiant energy when either the helmet is lifted or the shield is removed.

* * * * *

(f) * * *

(2) Employees performing any type of welding, cutting or heating shall be protected by suitable eye protective equipment in accordance with the requirements of § 1915.153.

* * * * *

9. In § 1915.53, revise paragraph (d) to read as follows:

§ 1915.53 Welding, cutting and heating in way of preservative coatings.

* * * * *

(d) *Protection against toxic preservative coatings.* (1) In enclosed spaces, all surfaces covered with toxic preservatives shall be stripped of all toxic coatings for a distance of at least 4 inches from the area of heat application or the employees shall be protected by air line respirators meeting the requirements of § 1915.154.

(2) In the open air, employees shall be protected by a filter type respirator in accordance with the requirements of § 1915.154.

* * * * *

10. In § 1915.71, revise paragraphs (e)(2)(ii), (e)(9), (f)(8), and (j)(3) to read as follows:

§ 1915.71 Scaffolds or staging.

* * * * *

(e) * * *

(2) * * *

(ii) Ladders over 16 feet long and up to and including those 20 feet long shall have side rails of not less than $1\frac{5}{16} \times 3$ inch lumber.

* * * * *

(9) Platform planking shall be in accordance with the requirements of paragraph (i) of this section, except that the width of the platform planking shall not exceed the distance between the side rails.

(f) * * *

(8) No more than two persons shall be permitted to work at one time on a swinging scaffold built to the minimum specifications contained in this paragraph. Where heavier construction is used, the number of persons permitted to work on the scaffold shall be determined by the size and the safe working load of the scaffold.

* * * * *

(j) * * *

(3) Rails may be omitted where the structure of the vessel prevents their use. When rails are omitted, employees working more than 5 feet above solid surfaces shall be protected by safety belts and life lines meeting the requirements of §§ 1915.159 and 1915.160, and employees working over water shall be protected by buoyant work vests meeting the requirements of § 1915.158(a).

* * * * *

11. In § 1915.72, revise paragraphs (a)(4),(a)(6) and (c)(1)(iii) to read as follows:

§ 1915.72 Ladders.

(a) * * *

(4) Portable metal ladders shall be of strength equivalent to that of wood ladders. Manufactured portable metal ladders provided by the employer shall be in accordance with the provisions of ANSI Standard A14.2–1972: Safety Requirements for Portable Metal Ladders (incorporated by reference, see § 1915.5).

* * * * *

(6) Manufactured portable wood ladders provided by the employer shall be in accordance with the provisions of ANSI Standard A14.1–1975: Safety Requirements for Portable Wood Ladders (incorporated by reference, see § 1915.5).

* * * * *

(c) *Construction of portable wood cleated ladders from 30 to 60 feet in length.* (1) * * *

(iii) Cleats shall be nailed to each rail with five 10d common wire nails or fastened with through bolts or other fasteners of equivalent strength.

* * * * *

12. In § 1915.73, revise paragraph (e) to read as follows:

§ 1915.73 Guarding of deck openings and edges.

* * * * *

(e) When employees are working near the unguarded edges of decks of vessels afloat, they shall be protected by personal flotation devices, meeting the requirements of § 1915.158(a).

* * * * *

13. In § 1915.74 revise paragraph (a)(2) and the first sentence of paragraph (c)(2) to read as follows:

§ 1915.74 Access to vessels.

(a) * * *

(2) Each side of such gangway, and the turn table if used, shall have a railing with a minimum height of approximately 33 inches measured perpendicularly from rail to walking surface at the stanchion, with a midrail. Rails shall be of wood, pipe, chain, wire or rope and shall be kept taut at all times.

* * * * *

(c) * * *

(2) Unless employees can step safely to or from the wharf, float, barge, or river towboat, either a ramp meeting the requirements of paragraph (c)(1) of this section or a safe walkway meeting the requirements of paragraph (a)(7) of this section shall be provided. * * *

* * * * *

14. In § 1915.75, revise the first sentence of paragraphs (b) and (d) and revise paragraph (e) to read as follows:

§ 1915.75 Access to and guarding of dry docks and marine railways.

* * * * *

(b) Each side of such gangway, ramp or permanent stairway, including those which are used for access to wing walls from dry dock floors, shall have a railing with a midrail. * * *

* * * * *

(d) Railings approximately 42 inches in height, with a midrail, shall be provided on the edges of wing walls of floating dry docks and on edges of graving docks. * * *.

(e) When employees are working on the floor of a floating dry dock where they are exposed to the hazard of falling into the water, the end of the dry dock shall be equipped with portable

stanchions and 42 inch railings with a midrail. When such a railing would be impracticable or ineffective, other effective means shall be provided to prevent employees from falling into the water.

* * * * *

15. In § 1915.77, revise the first sentence of paragraphs (a) and (c) and revise paragraph (e) to read as follows:

§ 1915.77 Working surfaces.

(a) Paragraphs (b) through (d) of this section shall apply to ship repairing and shipbuilding operations, and shall not apply to shipbreaking. * * *

* * * * *

(c) When employees are working aloft, or elsewhere at elevations more than 5 feet above a solid surface, either scaffolds or a sloping ladder, meeting the requirements of this subpart, shall be used to afford safe footing, or the employees shall be protected by safety belts and lifelines meeting the requirements of §§ 1915.159 and 1915.160. * * *

* * * * *

(e) When employees are boarding, leaving, or working from small boats or floats, they shall be protected by personal flotation devices meeting the requirements of § 1915.158(a).

* * * * *

16. In § 1915.92, revise paragraph (e) to read as follows:

§ 1915.92 Illumination.

* * * * *

(e) Employees shall not be permitted to enter dark spaces without a suitable portable light. The use of matches and open flame lights is prohibited. In nongas free spaces, portable lights shall meet the requirements of § 1915.13(b)(9).

* * * * *

17. In § 1915.97, revise paragraph (a) to read as follows:

§ 1915.97 Health and sanitation.

(a) The employer shall provide all necessary controls, and the employees shall be protected by suitable personal protective equipment against the hazards identified in § 1915.1200 of this part and those hazards for which specific precautions are required in subparts B, C, and D of this part.

* * * * *

18. In § 1915.112, revise paragraph (c)(3) to read as follows:

§ 1915.112 Ropes, chains and slings.

* * * * *

(c) * * *

(3) Interlink wear, not accompanied by stretch in excess of 5 percent, shall be noted and the chain removed from service when maximum allowable wear at any point of link, as indicated in Table G–9 in § 1915.118, has been reached.

* * * * *

19. In § 1915.115, revise paragraph (d) to read as follows:

§ 1915.115 Hoisting and hauling equipment.

* * * * *

(d) Accessible areas within the swing radius of the outermost part of the body of a revolving derrick or crane, whether permanently or temporarily mounted, shall be guarded in such a manner as to prevent an employee from being in such a position as to be struck by the crane or caught between the crane and fixed parts of the vessel or of the crane itself.

* * * * *

20. In § 1915.116, revise paragraph (n) to read as follows:

§ 1915.116 Use of gear.

* * * * *

(n) A section of hatch through which materials or equipment are being raised, lowered, moved, or otherwise shifted manually or by a crane, winch, hoist, or derrick, shall be completely opened. The beam or pontoon left in place adjacent to an opening shall be sufficiently lashed, locked or otherwise secured to prevent it from moving so that it cannot be displaced by accident.

* * * * *

21. In § 1915.118:

§ 1915.118 Tables.

a. Revise the headings in the second and third columns in table E–1, from "24 or less" "24–40" "40–60" to "≤24" ">24≤ 40" ">40≤60" respectively

b. Revise the heading in table E–3 from "Up to 10" "10 to 16" "16 to 20" to "≤10" ">10≤16" ">16≤20" respectively

c. In the second column of table G–1, under "Diameter in Inches" remove "1–15/32" and add in its place "15/32" and remove "1–13/16" and add in its place "13/16";

d. In table G–3, under 6 x 37 Classification in column "B" under the heading "Vertical," remove "621" and add in its place, "61";

e. In table G–7, in the second column under the heading "Single leg," remove "27,6" and add in its place "27.6";

f. In table G–9, in the first column under "Chain size in inches," remove "1–1/6" and add in its place "1–1/8";

g. In table G–9, in the second column under "Maximum allowable wear in fraction of inches" remove "1–1/64" and add in its place "11/64," and remove "1–1/32" and add in its place "11/32";

22. In § 1915.131, revise the first three sentences of paragraph (c), revise paragraph (d) and the first sentence of paragraph (g) to read as follows:

§ 1915.131 General precautions.

* * * * *

(c) All portable, power-driven circular saws shall be equipped with guards above and below the base plate or shoe. The upper guard shall cover the saw to the depth of the teeth, except for the minimum arc required to permit the base to be tilted for bevel cuts. The lower guard shall cover the saw to the depth of the teeth, except for the minimum arc required to allow proper retraction and contact with the work. * * *

(d) The moving parts of machinery on a dry dock shall be guarded.

* * * * *

(g) Headers, manifolds and widely spaced hose connections on compressed air lines shall bear the word "air" in letters at least 1-inch high, which shall be painted either on the manifolds or separate hose connections, or on signs permanently attached to the manifolds or connections. * * *

* * * * *

23. In § 1915.134, revise the first sentence of paragraph (c) to read as follows:

§ 1915.134 Abrasive wheels.

* * * * *

(c) Cup type wheels used for external grinding shall be protected by either a revolving cup guard or a band type guard in accordance with the provisions of the United States of America Standard Safety Code for the Use, Care, and Protection of Abrasive Wheels, B7.1–1964. * * *

* * * * *

24. In § 1915.152, revise paragraph (e)(2) to read as follows:

§ 1915.152 General requirements.

* * * * *

(e) * * *

(2) The employer shall ensure that each affected employee demonstrates the ability to use PPE properly before being allowed to perform work requiring the use of PPE.

* * * * *

25. In § 1915.158, revise paragraphs (a)(1) and (b)(4) to read as follows:

§ 1915.158 Lifesaving equipment.

(a) *Personal flotation devices (PFDs).*

(1) PFDs (life preservers, life jackets, or work vests) worn by each affected employee must be United States Coast Guard (USCG) approved pursuant to 46

CFR part 160 (Type I, II, III, or V PFD) and marked for use as a work vest, for commercial use, or for use on vessels. USCG approval is pursuant to 46 CFR part 160, Coast Guard Lifesaving Equipment Specifications.

* * * * *

(b) * * *

(4) At least 90 feet (27.43m) of line shall be attached to each ring life buoy.

* * * * *

26. In § 1915.159, revise paragraphs (a)(3), (a)(9), (b)(2), (b)(3), (b)(4), (b)(6)(iv), the note to paragraph (b)(6), paragraphs (b)(7), (c)(1)(i), and (c)(8) to read as follows:

§ 1915.159 Personal fall arrest systems (PFAS).

* * * * *

(a) * * *

(3) D-rings and snaphooks shall be capable of sustaining a minimum tensile load of 5,000 pounds (22.24 Kn).

* * * * *

(9) Anchorages shall be capable of supporting at least 5,000 pounds (22.24 Kn) per employee attached, or shall be designed, installed, and used as follows:

* * * * *

(b) * * *

(2) Vertical lifelines and lanyards shall have a minimum tensile strength of 5,000 pounds (22.24 Kn).

(3) Self-retracting lifelines and lanyards that automatically limit free fall distances to 2 feet (0.61 m) or less shall be capable of sustaining a minimum tensile load of 3,000 pounds (13.34 Kn) applied to a self-retracting lifeline or lanyard with the lifeline or lanyard in the fully extended position.

(4) Self-retracting lifelines and lanyards which do not limit free fall distance to 2 feet (0.61 m) or less, ripstitch lanyards and tearing and deforming lanyards shall be capable of sustaining a minimum static tensile load of 5,000 pounds (22.24 Kn) applied to the device when they are in the fully extended position.

* * * * *

(6) * * *

(iv) Have sufficient strength to withstand twice the potential impact energy of an employee free falling a distance of 6 feet (1.83 m), or the free fall distance permitted by the system, whichever is less;

Note to Paragraph (b)(6) of this Section: A personal fall arrest system which meets the criteria and protocols contained in appendix B, is considered to comply with paragraph (b)(6). If the combined tool and body weight is 310 pounds (140.62 kg) or more, systems that meet the criteria and protocols contained in appendix B will be deemed to comply with the provisions of paragraph (b)(6) only if they are modified appropriately to provide protection for the extra weight of the employee and tools. (7) Personal fall arrest systems shall be rigged such that an employee can neither free fall more than 6 feet (1.83 m) nor contact any lower level.

(c) *Criteria for selection, use and care of systems and system components.*

(1) * * *

(i) The attachment point of a body harness shall be located in the center of the wearer's back near the shoulder level, or above the wearer's head. If the free fall distance is limited to less than 20 inches (50.8 cm), the attachment point may be located in the chest position; and

* * * * *

(8) Body belts shall be at least one and five-eighths inches (4.13 cm) wide.

* * * * *

27. In § 1915.160, revise paragraphs (a)(2), (b)(1), the first two sentences of (b)(2)(i) and revise paragraph (b)(2)(ii) to read as follows:

§ 1915.160 Positioning device systems.

* * * * *

(a) * * *

(2) Connecting assemblies shall have a minimum tensile strength of 5,000 pounds (22.24 Kn).

* * * * *

(b) *Criteria for positioning device systems.* (1) Restraint (tether) lines shall have a minimum breaking strength of 3,000 pounds (13.34 Kn).

(2) * * *

(i) A window cleaner's positioning system shall be capable of withstanding without failure a drop test consisting of a 6 foot (1.83 m) drop of a 250-pound (113.4 kg) weight. The system shall limit the initial arresting force to not more than 2,000 pounds (8.9 Kn), with a duration not to exceed 2 milliseconds.

* * *

(ii) All other positioning device systems shall be capable of withstanding without failure a drop test consisting of a 4 foot (1.22 m) drop of a 250-pound (113.4 kg) weight.

* * * * *

28. In Appendix A to subpart I of Part 1915, revise paragraph (a) of section 10, *Selection guidelines for foot protection*, to read as follows:

Appendix A to Subpart I—Non-Mandatory Guidelines For Hazard Assessment, Personal Protective Equipment (PPE), and PPE Training Program

* * * * *

10. *Selection guidelines for foot protection.* (a) Safety shoes and boots must meet ANSI Z41–1991 and provide impact and compression protection to the foot. Where necessary, safety shoes can be obtained which provide puncture protection. In some work situations, metatarsal (top of foot) protection should be provided, and in some other special situations, electrical conductive or insulating safety shoes would be appropriate.

* * * * *

29. In Appendix B to Subpart I of Part 1915, revise paragraphs 1(a)(2), 1(a)(4), 1(b)(1), 1(b)(3), 1(b)(5), 1(c)(1)(i), 1(c)(1)(ii), 1(c)(2)(i), 1(c)(3), 1(d)(1)(i), 2(a)(1) and (2), the first two sentences of 2(a)(3), and revise 2(a)(4) to read as follows:

Appendix B to Subpart I—General Testing Conditions and Additional Guidelines for Personal Fall Protection Systems (Non-Mandatory)

1. *Personal fall arrest systems.* * * *

(a) * * *

(2) The anchorage should be rigid, and should not have a deflection greater than .04 inches (1 cm) when a force of 2,250 pounds (10.01 Kn) is applied.

* * * * *

(4) The test weight used in the strength and force tests should be a rigid, metal cylindrical or torso-shaped object with a girth of 38 inches plus or minus 4 inches (96.5 cm plus or minus 10.16 cm).

* * * * *

(b) *Strength test.* (1) During the testing of all systems, a test weight of 300 pounds plus or minus 5 pounds (136.08 kg plus or minus 2.27 kg) should be used. (See paragraph (a)(4) above.)

* * * * *

(3) For lanyard systems, the lanyard length should be 6 feet plus or minus 2 inches (1.83 m plus or minus 5.08 cm) as measured from the fixed anchorage to the attachment on the body belt or harness.

* * * * *

(5) For lanyard systems, for systems with deceleration devices which do not automatically limit free fall distance to 2 feet (0.61 m) or less, and for systems with deceleration devices which have a connection distance in excess of 1 foot (0.31 m) (measured between the centerline of the lifeline and the attachment point to the body belt or harness), the test weight should be rigged to free fall a distance of 7.5 feet (2.29 m) from a point that is 1.5 feet (45.72 cm) above the anchorage point, to its hanging location (6 feet (1.83 m) below the anchorage). The test weight should fall without interference, obstruction, or hitting the floor or the ground during the test. In some cases, a

non-elastic wire lanyard of sufficient length may need to be added to the system (for test purposes) to create the necessary free fall distance.

* * * * *

(c) *Force test general.* * * *

(1) For lanyard systems. (i) A test weight of 220 pounds plus or minus three pounds (99.79 kg plus or minus 1.36 kg) should be used (see paragraph (a)(4) above).

(ii) Lanyard length should be 6 feet plus or minus 2 inches (1.83 m plus or minus 5.08 cm) as measured from the fixed anchorage to the attachment on the body belt or body harness.

* * * * *

(2) For all other systems. (i) A test weight of 220 pounds plus or minus 3 pounds (99.79 kg plus or minus 1.36 kg) should be used (see paragraph (a)(4) above).

* * * * *

(3) Failure. A system fails the force test if the recorded maximum arresting force exceeds 1,260 pounds (5.6 Kn) when using a body belt, or exceeds 2,520 pounds (11.21 Kn) when using a body harness.

* * * * *

(d) *Deceleration device tests—general.* * * *

(1) Rope-grab-type deceleration devices. (i) Devices should be moved on a lifeline 1,000 times over the same length of line a distance of not less than 1 foot (30.48 cm), and the mechanism should lock each time.

* * * * *

2. *Positioning device systems*—(a) *Test Conditions.* (1) The fixed anchorage should be rigid and should not have a deflection greater than .04 inches (1.02 mm) when a force of 2,250 pounds (10.01 Kn) is applied.

(2) For lineman's body belts and pole straps, the body belt should be secured to a 250 pound (113.4 kg) bag of sand at a point which simulates the waist of an employee. One end of the pole strap should be attached to the rigid anchorage and the other end to the body belt. The sand bag should be allowed to free fall a distance of 4 feet (1.22 m). Failure of the pole strap and body belt should be indicated by any breakage or slippage sufficient to permit the bag to fall free to the ground.

(3) For window cleaner's belts, the complete belt should withstand a drop test consisting of a 250 pound (113.4 kg) weight falling free for a distance of 6 feet (1.83 m). The weight should be a rigid object with a girth of 38 inches plus or minus four inches (96.52 cm plus or minus 10.16 cm.) * * *

(4) All other positioning device systems (except for restraint line systems) should withstand a drop test consisting of a 250-pound (113.4 kg) weight falling free for a distance of 4 feet (1.22 m). The weight should be a rigid object with a girth of 38 inches plus or minus 4 inches (96.52 cm plus or minus 10.16 cm). The body belt or harness should be affixed to the test weight as it would be to an employee. The system should be connected to the rigid anchor in the manner that the system would be connected in normal use. The weight should be lifted exactly 4 feet (1.22 m) above its "at rest" position and released so as to permit a vertical free fall of 4 feet (1.22 m). Any breakage or slippage which permits the weight to fall free to the ground should constitute failure of the system.

30. In § 1915.163, revise the first sentence of paragraph (a)(1) and revise paragraph (a)(2) to read as follows:

§ 1915.163 Ship's piping systems.

(a) * * *

(1) The isolation and shutoff valves connecting the dead system with the live system or systems shall be secured, blanked, and tagged to indicate that employees are working on the systems. * * *

(2) Drain connections to the atmosphere on all of the dead interconnecting systems shall be opened for visual observation of drainage.

31. In § 1915.165, revise paragraph (a)(1) to read as follows:

§ 1915.165 Ship's deck machinery.

(a) * * *

(1) The devil claws (also known as chain stoppers) shall be made fast to the anchor chains.

* * * * *

32. In § 1915.172, revise the first sentence of paragraph (a) to read as follows:

§ 1915.172 Portable air receivers and other unfired pressure vessels.

(a) Portable, unfired pressure vessels, built after the effective date of this regulation, shall be marked and reported indicating that they have been designed and constructed to meet the standards of the American Society of Mechanical Engineers Boiler and Pressure Vessel Code, Section VIII, Rules for Construction of Unfired Pressure Vessels, 1963. * * *

* * * * *

33. In § 1915.181, revise paragraph (c) to read as follows:

§ 1915.181 Electrical circuits and distribution boards.

* * * * *

(c) Deenergizing the circuit shall be accomplished by opening the circuit breaker, opening the switch, or removing the fuse, whichever method is appropriate. The circuit breaker, switch, or fuse location shall be tagged to indicate that an employee is working on the circuit. Such tags shall not be removed nor the circuit energized until it is definitely determined that the work on the circuit has been completed.

* * * * *

34. In § 1915.1000, revise the heading to paragraph (d) to read as follows:

§ 1915.1000 Air contaminants.

* * * * *

(d) *Computation formula* * * *

* * * * *

35. In § 1915.1001, revise the first sentence of paragraph (d)(2), paragraphs (d)(4), (g)(5)(ii)(B)(*1*), (g)(5)(ii)(B)(7), (g)(5)(ii)(B)(*8*), (g)(5)(iii)(A), (g)(8)(iii)(C), (h)(1)(iv), the first item in the first column of Table 1, paragraphs (i)(4)(i), the heading of (k)(3), (k)(3)(ii), (k)(5)(ii)(A), (k)(9)(vi), (k)(9)(viii), and (o)(1) to read as follows:

§ 1915.1001 Asbestos.

* * * * *

(d) * * *

(2) Asbestos hazards at a multi-employer worksite shall be abated by the contractor who created or controls the source of asbestos contamination. * * *

* * * * *

(4) All employers of employees working adjacent to regulated areas established by another employer on a multi-employer worksite shall take steps on a daily basis to ascertain the integrity of the enclosure and/or the effectiveness of the control method relied on by the primary asbestos contractor to assure that asbestos fibers do not migrate to such adjacent areas.

* * * * *

(g) * * *

(5) * * *

(ii) * * *

(B) *Work practices—(1)* Each glovebag shall be installed so that it completely covers the circumference of pipes or other structures where the work is to be done.

* * * * *

(*7*) Where a system uses an attached waste bag, such bag shall be connected to a collection bag using hose or other material which shall withstand the pressure of ACM waste and water without losing its integrity.

(*8*) A sliding valve or other device shall separate the waste bag from the hose to ensure no exposure when the waste bag is disconnected.

* * * * *

(iii) * * *

(A) *Specifications:* In addition to the specifications for glove bag systems above, negative pressure glove bag systems shall attach the HEPA vacuum system or other device to the bag to prevent collapse during removal.

* * * * *

(8) * * *

(iii) * * *

(C) Unwrapped or unbagged panels or shingles shall be immediately lowered to the ground via a covered dust-tight chute, crane or hoist, or be placed in an impervious waste bag or wrapped in plastic sheeting and lowered to the ground no later than the end of the work shift.

* * * * *

(h) (1) * * *

(iv) During all Class II and III asbestos jobs where the employer does not produce a "negative exposure assessment."

* * * * *

TABLE 1.—RESPIRATORY PROTECTION FOR ASBESTOS FIBERS

Airborne concentration of asbestos or conditions of use	Required respirator
Not in excess of 1 f/cc (10 X PEL), or otherwise as required independent of exposure pursuant to paragraph (h)(2)(iv) of this section.	Half-mask air purifying respirator other than a disposable respirator, equipped with high efficiency filters.
Not in excess of 5 f/xx (50 X PEL).	Full facepiece air-purifying respirator equipped with high efficiency filters.
Not in excess of 10 f/cc (100 X PEL).	Any powered air-purifying respirator equipped with high efficiency filters or any supplied air respirator operated in continuous flow mode.

* * * * *

(i) * * *

(4) *Inspection of protective clothing.* (i) The qualified person shall examine worksuits worn by employees at least once per workshift for rips or tears that may occur during the performance of work.

* * * * *

(k) * * *

(3) *Duties of employers whose employees perform work subject to this standard in or adjacent to areas containing ACM and PACM.* * * *

(ii) Before work under this standard is performed employers of employees who will perform such work shall inform the following persons of the location and quantity of ACM and/or PACM present at the worksite and the precautions to be taken to ensure that airborne asbestos is confined to the area.

* * * * *

(5) * * *

(ii) * * *

(A) Having completed an inspection conducted pursuant to the requirements of AHERA (40 CFR part 763, subpart E) which demonstrates that the material is not ACM; or

* * * * *

(9) * * *

(vi) Training for employees performing Class IV operations shall be consistent with EPA requirements for training of local education agency maintenance and custodial staff as set forth at 40 CFR 763.92(a)(1). Such a course shall include available information concerning the locations of thermal system insulation and surfacing ACM/PACM, and asbestos-containing flooring material, or flooring material where the absence of asbestos has not yet been certified; and instruction in the recognition of damage, deterioration, and delamination of asbestos containing building materials. Such a course shall take at least 2 hours.

* * * * *

(viii) The training program shall be conducted in a manner that the employee is able to understand. In addition to the content required by the provisions in paragraphs (k)(9)(iii) through (vi) of this section, the employer shall ensure that each such employee is informed of the following:

* * * * *

(o) *Qualified person*—(1) *General.* On all shipyard worksites covered by this standard, the employer shall designate a qualified person, having the qualifications and authority for ensuring worker safety and health required by subpart C, General Safety and Health Provisions for Construction (29 CFR 1926.20 through 1926.32).

36. Amend Appendix C to 1915.1001 as follows:

a. Under "Qualitative Fit Test Protocols" revise the heading to Section I, "Isoamyl Acetate Protocol";

b. In Section II, "Saccharin Solution Aerosol Protocol", revise the heading to paragraph B, and revise paragraph C(15);

c. Under Section III, revise the heading of "Irritant Fume Protocol" and under "Quantitative Fit Test Procedures", under heading 1, revise paragraph (a); revise headings of numbers 2 and 5 and revise the first sentence of paragraph 5;

d. Revise paragraph 6 and paragraph 9(f).

The revisions read as follows:

Appendix C to § 1915.1001—Qualitative and Quantitative Fit Testing Procedures. Mandatory

Qualitative Fit Test Protocols

I. Isoamyl Acetate Protocol

* * *

II. Saccharin Solution Aerosol Protocol

A. * * *

B. Taste Threshold Screening

* * *

C. * * *

15. Successful completion of the test protocol shall allow the use of the half mask tested respirator in contaminated atmospheres up to 10 times the PEL of asbestos. In other words this protocol may be used to assign protection factors no higher than ten.

* * * * *

III. Irritant Fume Protocol

* * * * *

Quantitative Fit Test Procedures

1. General.

a. The method applies to negative-pressure non-powered air-purifying respirators only.

* * * * *

2. Definitions.

* * * * *

5. Exercise Regime.

Prior to entering the test chamber, the test subject shall be given complete instructions as to her/his part in the test procedures.* * *

* * * * *

6. Test Termination.

The test shall be terminated whenever any single peak penetration exceeds 5 percent for half-masks and 1 percent for full facepieces. The test subject may be refitted and retested. If two of the three required tests are terminated, the fit shall be deemed inadequate. (See paragraph 4.h)

* * * * *

9. * * *

f. Filters used for qualitative or quantitative fit testing shall be replaced weekly, whenever increased breathing resistance is encountered, or when the test agent has altered the integrity of the filter media. Organic vapor cartridges/canisters shall be replaced daily or sooner if there is any indication of breakthrough by the test agent.

* * * * *

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