

# Oregon OSHA Proposes Changes to Acetylene rules in General Industry

November 2009

Text proposed to be removed/repealed is in ~~[brackets with line through]~~.

Text proposed to be added/adopted is in **bold and underlined**.

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## Division 2/A, General

437-002-0005 Adoption by Reference. In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following ~~[F]ederal [rules as]~~ **regulations** printed ~~[in]~~ **as part of** the Code of Federal Regulations, 29 CFR 1910, ~~[revised as of 7/1/98, and any subsequent amendments published]~~ in the Federal Register ~~[as listed below]~~:

- (1) 29 CFR 1910.1, Purpose and scope; published 6/27/74, Federal Register, vol. 39, no. 125, p. 23503.
- (2) 29 CFR 1910.2, Definitions; published 6/27/74, Federal Register, vol. 39, no. 125, p. 23503.
- (3) 29 CFR 1910.3, Petitions for the issuance, amendment, or repeal of a standard; published 6/27/74, Federal Register, vol. 39, no. 125, p. 23503.
- (4) 29 CFR 1910.4, Amendments to this part; published 6/27/74, Federal Register, vol. 39, no. 125, p. 23503.
- (5) 29 CFR 1910.5, Applicability of standards; published ~~[6/27/74, Federal Register, vol. 39, no. 125, pp. 23503-23504; amended]~~ 6/30/93, FR vol. 58, no. 124, p. 35308.
- (6) 29 CFR 1910.6, Incorporation by reference; published ~~[6/27/74, Federal Register, vol. 39, no. 125, p. 23504; amended 2/10/84, FR vol. 49, no. 29, p. 5321; 3/7/96, FR vol. 61, no. 46, p. 9230; 3/23/99, FR vol. 64, no. 55, p. 13908; 9/13/05, FR vol. 70, no. 176, p. 53925; 2/14/07, FR vol. 72, no. 30, p. 7136; 12/14/07, FR vol. 72, no. 240, p. 71064]~~ **8/11/09, FR vol. 74, no. 153, pp. 40442-40447.**
- (7) 29 CFR 1910.7, Definition and requirements for a Nationally Recognized Testing Laboratory; published ~~[4/12/88, Federal Register, vol. 53, no. 70, pp. 12120-12125; and amended]~~ 5/11/88, FR vol. 53, no. 91, p. 16838.

(8) 29 CFR 1910.9, Compliance duties owed to each employee; published 12/12/08, Federal Register, vol. 73, no. 240, pp. 75568-75589.

These standards are on file at the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) and 656.726(4).

Stat. Implemented: ORS 654.001 through 654.295.

Hist: APD Admin. Order 17-1988, f. 11/10/88, ef. 11/10/88.

OR-OSHA Admin. Order 4-1997, f. 4/2/97, ef. 4/2/97.

OR-OSHA Admin. Order 8-1999, f. 8/6/99, ef. 8/6/99.

OR-OSHA Admin. Order 4-2005, f. 12/14/05, ef. 12/14/05.

OR-OSHA Admin. Order 4-2007, f. 8/15/07, ef. 8/15/07.

OR-OSHA Admin. Order 7-2008, f. 5/30/08, ef. 5/30/08.

OR-OSHA Admin. Order 5-2009, f. 5/29/09, ef. 5/29/09.

**OR-OSHA Admin. Order X-2010, f. X/XX/10, ef. X/XX/10.**

#### 1910.6 Incorporation by Reference.

(a)

(1) The standards of agencies of the U.S. Government, and organizations which are not agencies of the U.S. Government which are incorporated by reference in this part, have the same force and effect as other standards in this part. Only the mandatory provisions (i.e., provisions containing the word "shall" or other mandatory language) of standards incorporated by reference are adopted as standards under the Occupational Safety and Health Act.

(2) Any changes in the standards incorporated by reference in this part and an official historic file of such changes are available for inspection at the national office of the Occupational Safety and Health Administration, U.S. Department of Labor, Washington, DC 20210.

(3) The materials listed in paragraphs (b) through (w) of this section are incorporated by reference in the corresponding sections noted as they exist on the date of the approval, and a notice of any change in these materials will be published in the Federal Register. These incorporations by reference were approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51.

(4) Copies of the following standards that are issued by the respective private standards organizations may be obtained from the issuing organizations. The materials are available for purchase at the corresponding addresses of the private standards organizations noted below. In addition, all are available for inspection at the Office of the Federal Register, 800 North Capitol Street, NW., suite 700, Washington DC, and through the OSHA Docket Office, room N2625, U.S. Department of Labor, 200 Constitution Ave, Washington, DC 20210, or any of its regional offices.

(b) The following material is available for purchase from the American Conference of Governmental Industrial Hygienists (ACGIH), 1014 Broadway, Cincinnati, OH 45202:

(1) "Industrial Ventilation: A Manual of Recommended Practice" (22nd ed., 1995), incorporation by reference (IBR) approved for §1910.124(b)(4)(iii).

(2) Threshold Limit Values and Biological Exposure Indices for 1986-87, IBR approved for §1910.120, PEL definition.

(c) The following material is available for purchase from the American Society of Agricultural Engineers (ASAE), 2950 Niles Road, Post Office Box 229, St. Joseph, MI 49085:

- (1) ASAE Emblem for Identifying Slow Moving Vehicles, ASAE S276.2 (1968), IBR approved for §1910.145(d)(10).
- (2) (Reserved)
- (d) The following material is available for purchase from the Agriculture Ammonia Institute – Rubber Manufacturers (AAI-RMA) Association, 1400 K St. NW, Washington DC 20005:
- (1) AAI-RMA Specifications for Anhydrous Ammonia Hose, IBR approved for §1910.111(b)(8)(i).
- (2) (Reserved)
- (e) The following material is available for purchase from the American National Standards Institute (ANSI), 25 West 43rd St., Fourth Floor, New York, NY 10036:
- (1) (Reserved)
- (2) (Reserved)
- (3) ANSI A11.1-65 (R 70) Practice for Industrial Lightning, IBR approved for §§1910.219(c)(5)(iii); 1910.261(a)(3)(i), (c)(10), and (k)(21); and 1910.265(c)(2).
- (4) ANSI A11.1-65 Practice for Industrial Lighting, IBR approved for §§1910.262(c)(6) and 1910.265(d)(2)(i)(a).
- (5) (Reserved)
- (6) ANSI A13.1-56 Scheme for the Identification of Piping Systems, IBR approved for §§1910.253(d)(4)(ii); 1910.261(a)(3)(iii); 1910.262(c)(7).
- (7) ANSI A14.1-68 Safety Code for Portable Wood Ladders, Supplemented by ANSI A14.1a-77, IBR approved for §1910.261(a)(3)(iv) and (c)(3)(i).
- (8) ANSI A14.2-56 Safety Code for Portable Metal Ladders, Supplemented by ANSI A14.2a-77, IBR approved for §1910.261(a)(3)(v) and (c)(3)(i).
- (9) ANSI A14.3-56 Safety Code for Fixed Ladders, IBR approved for §§1910.68(b)(4) and (12); 1910.179(c)(2); and 1910.261(a)(3)(vi) and (c)(3)(i).
- (10) ANSI A17.1-65 Safety Code for Elevators, Dumbwaiters and Moving Walks, Including Supplements, A17.1a (1967); A17.1b (1968); A17.1c (1969); A17.1d (1970); IBR approved for §1910.261(a)(3)(vii), (g)(11)(i), and (l)(4).
- (11) ANSI A17.2-60 Practice for the Inspection of Elevators, Including Supplements, A17.2a (1965), A17.2b (1967), IBR approved for §1910.261(a)(3)(viii).
- (12) ANSI A90.1-69 Safety Standard for Manlifts, IBR approved for §1910.68(b)(3).
- (13) ANSI A92.2-69 Standard for Vehicle Mounted Elevating and Rotating Work Platforms, IBR approved for §§1910.67(b)(1), (2), (c)(3), and (4) and 1910.268(s)(1)(v).
- (14) ANSI A120.1-70 Safety Code for Powered Platforms for Exterior Building Maintenance, IBR approved for §1910.66 App. D (b) through (d).
- (15) ANSI B7.1-70 Safety Code for the Use, Care and Protection of Abrasive Wheels, IBR approved for §§1910.215(b)(12) and 1910.218(j).
- (16) ANSI B15.1-53 (R 58) Safety Code for Mechanical Power Transmission Apparatus, IBR approved for §§1910.68(b)(4) and 1910.261(a)(3)(ix), (b)(1), (e)(3), (e)(9), (f)(4), (j)(5)(iv), (k)(12), and (l)(3).
- (17) ANSI B20.1-57 Safety Code for Conveyors, Cableways, and Related Equipment, IBR approved for §§1910.218(j)(3); 1910.261(a)(3)(x), (b)(1), (c)(15)(iv), (f)(4), and (j)(2); 1910.265(c)(18)(i).
- (18) ANSI B30.2-43 (R 52) Safety Code for Cranes, Derricks, and Hoists, IBR approved for §1910.261(a)(3)(xi), (c)(2)(vi), and (c)(8)(i) and (iv).
- (19) ANSI B30.2.0-67 Safety Code for Overhead and Gantry Cranes, IBR approved for §§1910.179(b)(2); 1910.261(a)(3)(xii), (c)(2)(v), and (c)(8)(i) and (iv).
- (20) ANSI B30.5-68 Safety Code for Crawler, Locomotive, and Truck Cranes, IBR approved for §§1910.180(b)(2) and 1910.261(a)(3)(xiii).
- (21) ANSI B30.6-69 Safety Code for Derricks, IBR approved for §§1910.181(b)(2) and 1910.268(j)(4)(iv)(E) and (H).

- (22) ANSI B31.1-55 Code for Pressure Piping, IBR approved for §1910.261(g)(18)(iii).
- (23) ANSI B31.1-67, IBR approved for §1910.253(d)(1)(i)(A).
- (24) ANSI B31.1a-63 Addenda to ANSI B31.1 (1955), IBR approved for §1910.261(g)(18)(iii).
- (25) ANSI B31.1-67 and Addenda B31.1 (1969) Code for Pressure Piping, IBR approved for §§1910.103(b)(1)(iii)(b); 1910.104(b)(5)(ii); 1910.218(d)(4) and (e)(1)(iv); and 1910.261(a)(3)(xiv) and (g)(18)(iii).
- (26) ANSI B31.2-68 Fuel Gas Piping, IBR approved for §1910.261(g)(18)(iii).
- (27) ANSI B31.3-66 Petroleum Refinery Piping, IBR approved for §1910.103(b)(3)(v)(b).
- (28) ANSI B31.5-66 Addenda B31.5a (1968) Refrigeration Piping, IBR approved for §§1910.103(b)(3)(v)(b) and 1910.111(b)(7)(iii).
- (29) ANSI B56.1-69 Safety Standard for Powered Industrial Trucks, IBR approved for §§1910.178(a)(2) and (3) and 1910.261(a)(3)(xv), (b)(6), (m)(2), and (m)(5)(iii).
- (30) ANSI B57.1-65 Compressed Gas Cylinder Valve Outlet and Inlet Connections, IBR approved for §1910.253(b)(1)(iii).
- (31) (Reserved)
- (32) ANSI B175.1-1991, Safety Requirements for Gasoline-Powered Chain Saws §1910.266(e)(2)(i).
- (33) (Reserved)
- (34) ANSI C33.2-56 Safety Standard for Transformer-Type Arc Welding Machines, IBR approved for §1910.254(b)(1).
- (35) (Reserved)
- (36) ANSI H23.1-70 Seamless Copper Water Tube Specification, IBR approved for §1910.110(b)(8)(ii) and (13)(ii)(b)(1).
- (37) ANSI H38.7-69 Specification for Aluminum Alloy Seamless Pipe and Seamless Extruded Tube, IBR approved for §1910.110(b)(8)(i).
- (38) ANSI J6.4-71 Standard Specification for Rubber Insulating Blankets, IBR approved for §1910.268(f)(1) and (n)(11)(v).
- (39) ANSI J6.6-71 Standard Specification for Rubber Insulating Gloves, IBR approved for §1910.268(f)(1) and (n)(11)(iv).
- (40) ANSI K13.1-67 Identification of Gas Mask Canisters, IBR approved for §1910.261(a)(3)(xvi) and (h)(2)(iii).
- (41) ANSI K61.1-60 Safety Requirements for the Storage and Handling of Anhydrous Ammonia, IBR approved for §1910.111(b)(11)(i).
- (42) ANSI K61.1-66 Safety Requirements for the Storage and Handling of Anhydrous Ammonia, IBR approved for §1910.111(b)(11)(i).
- (43) ANSI O1.1-54 (R 61) Safety Code for Woodworking Machinery, IBR approved for §1910.261(a)(3)(xvii), (e)(7), and (i)(2).
- (44) ANSI S1.4-71 (R 76) Specification for Sound Level Meters, IBR approved for §1910.95 Appendixes D and I.
- (45) ANSI S1.11-71 (R 76) Specification for Octave, Half-Octave and Third-Octave Band Filter Sets, IBR approved for §1910.95 Appendix D.
- (46) ANSI S3.6-69 Specifications for Audiometers, IBR approved for §1910.95(h)(2) and (5)(ii) and Appendix D.
- (47) ANSI Z4.1-68 Requirements for Sanitation in Places of Employment, IBR approved for §1910.261(a)(3)(xviii) and (g)(15)(vi).
- (48) (Reserved)
- (49) ANSI Z9.1-51 Safety Code for Ventilation and Operation of Open-Surface Tanks, IBR approved for §§1910.261(a)(3)(xix), (g)(18)(v), and (h)(2)(i).
- (50) ANSI Z9.1-71 Practices for Ventilation and Operation of Open-Surface Tanks, IBR approved for §1910.124(b)(4)(iv).

- (51) ANSI Z9.2-60 Fundamentals Governing the Design and Operation of Local Exhaust Systems, IBR approved for §§1910.94(a)(4)(i) introductory text, (a)(6) introductory text, (b)(3)(ix), (b)(4)(i) and (ii), (c)(3)(i) introductory text, (c)(5)(iii)(b), and (c)(7)(iv)(a); 1910.261(a)(3)(xx), (g)(1)(i) and (iii), and (h)(2)(ii).
- (52) ANSI Z9.2-79 Fundamentals Governing the Design and Operation of Local Exhaust Systems, IBR approved for §1910.124(b)(4)(i).
- (53) ANSI Z12.12-68 Standard for the Prevention of Sulfur Fires and Explosions, IBR approved for §1910.261(a)(3)(xxi), (d)(1)(i), (f)(2)(iv), and (g)(1)(i).
- (54) ANSI Z12.20-62 (R 69) Code for the Prevention of Dust Explosions in Woodworking and Wood Flour Manufacturing Plants, IBR approved for §1910.265(c)(20)(i).
- (55) ANSI Z21.30-64 Requirements for Gas Appliances and Gas Piping Installations, IBR approved for §1910.265(c)(15).
- (56) ANSI Z24.22-57 Method of Measurement of Real-Ear Attenuation of Ear Protectors at Threshold, IBR approved for §1910.261(a)(3)(xxii).
- (57) ANSI Z33.1-61 Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, IBR approved for §§1910.94(a)(4)(i); 1910.261(a)(3)(xxiii) and (f)(5); and 1910.265(c)(20)(i).
- (58) ANSI Z33.1-66 Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying, IBR approved for §1910.94(a)(2)(ii).
- (59) ANSI Z35.1-68 Specifications for Accident Prevention Signs, IBR approved for §1910.261(a)(3)(xxiv) and (c)(16).
- (60) ANSI Z41.1-67 Men's Safety Toe Footwear, IBR approved for §§1910.94(a)(5)(v); 1910.136(b)(2) and 1910.261(i)(4).
- (61) ANSI Z41-91 Personal Protection – Protective Footwear, IBR approved for §1910.136(b)(1).
- (62) (Reserved)
- (63) (Reserved)
- (64) ANSI Z49.1-67 Safety in Welding and Cutting, IBR approved for §1910.252(c)(1)(iv)(A) and (B).
- (65) ANSI Z53.1-67 Safety Color Code for Marking Physical Hazards and the Identification of Certain Equipment, IBR approved for §§1910.97(a)(3)(ii); 1910.145(d)(2), (4), and (6).
- (66) ANSI Z54.1-63 Safety Standard for Non-Medical X-Ray and Sealed Gamma Ray Sources, IBR approved for §1910.252(d)(1)(vii) and (2)(ii).
- (67) ANSI Z87.1-68 Practice of Occupational and Educational Eye and Face Protection, IBR approved for §§1910.133(b)(2); 1910.252(b)(2)(ii)(I); and 1910.261(a)(3)(xxv), (d)(1)(ii), (f)(5), (g)(10), (g)(15)(v), (g)(18)(ii), and (i)(4).
- (68) ANSI Z87.1-89, Practice for Occupational and Educational Eye and Face Protection, IBR approved for §1910.133(b)(1).
- (69) ANSI Z88.2-69 Practices for Respiratory Protection, IBR approved for §§1910.94(c)(6)(iii)(a); 1910.134(c); and 1910.261(a)(3)(xxvi), (b)(2), (f)(5), (g)(15)(v), (h)(2)(iii) and (iv), and (i)(4).
- (70) ANSI Z89.1-69 Safety Requirements for Industrial Head Protection, IBR approved for §§1910.35(b)(2); and 1910.261(a)(3)(xxvii), (b)(2), (g)(15)(v), and (i)(4).
- (71) ANSI Z89.1-86, Protective Headwear for Industrial Workers Requirements, IBR approved for §1910.135(b)(1).
- (72) ANSI Z89.2-71 Safety Requirements for Industrial Protective Helmets for Electrical Workers, Class B, IBR approved for §1910.268(i)(1).
- (f) The following material is available for purchase from the American Petroleum Institute (API), 1220 L Street NW, Washington, DC 20005:

- (1) (Reserved)
  - (2) API 12B (May 1958) Specification for Bolted Production Tanks, 11th Ed., With Supplement No. 1, Mar. 1962, IBR approved for §1910.106(b)(1)(i)(a)(3).
  - (3) API 12D (Aug. 1957) Specification for Large Welded Production Tanks, 7th Ed., IBR approved for §1910.106(b)(1)(i)(a)(3).
  - (4) API 12F (Mar. 1961) Specification for Small Welded Production Tanks, 5th Ed., IBR approved for §1910.106(b)(1)(i)(a)(3).
  - (5) API 620, Fourth Ed. (1970) Including Appendix R, Recommended Rules for Design and Construction of Large Welded Low Pressure Storage Tanks, IBR approved for §§1910.103(c)(1)(i)(a); 1910.106(b)(1)(iv)(b)(1); and 1910.111(d)(1)(ii) and (iii).
  - (6) API 650 (1966) Welded Steel Tanks for Oil Storage, 3rd Ed., IBR approved for §1910.106(b)(1)(iii)(a)(2).
  - (7) API 1104 (1968) Standard for Welding Pipelines and Related Facilities, IBR approved for §1910.252(d)(1)(v).
  - (8) API 2000 (1968) Venting Atmospheric and Low Pressure Storage Tanks, IBR approved for §1910.261(b)(2)(iv)(b)(1).
  - (9) API 2201 (1963) Welding or Hot Tapping on Equipment Containing Flammables, IBR approved for §1910.252(d)(1)(vi).
- (g) The following material is available for purchase from the American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017:
- (1) ASME Boiler and Pressure Vessel Code, Sec. VIII, 1949, 1950, 1952, 1956, 1959, and 1962 Ed., IBR approved for §§1910.110(b)(10)(ii) (Table H-26), (d)(2) (Table H-31); (e)(3)(1) (Table H-32), (h)(2) (Table H-34); and 1910.111(b)(2)(vi);
  - (2) ASME Code for Pressure Vessels, 1968 Ed., IBR approved for §§1910.106(i)(3)(i); 1910.110(g)(2)(iii)(b)(2); and 1910.217(b)(12);
  - (3) ASME Boiler and Pressure Vessel Code, Sec. VIII, 1968, IBR approved for §§1910.103; 1910.104(b)(4)(ii); 1910.106(b)(1)(iv)(b)(2) and (i)(3)(ii); 1910.107; 1910.110(b)(11)(i)(b) and (iii)(a)(1); 1910.111(b)(2)(i), (ii), and (iv); and 1910.169(a)(2)(i) and (ii);
  - (4) ASME Boiler and Pressure Vessel Code, Sec. VIII, Paragraph UG-84, 1968, IBR approved for §1910.104(b)(4)(ii) and (b)(5)(iii);
  - (5) ASME Boiler and Pressure Vessel Code, Sec. VIII, Unfired Pressure Vessels, Including Addenda (1969), IBR approved for §§1910.261; 1910.262; 1910.263(i)(24)(ii);
  - (6) Code for Unfired Pressure Vessels for Petroleum Liquids and Gases of the API and the ASME, 1951 Ed., IBR approved for §1910.110(b)(3)(iii); and
  - (7) ASME B56.6-1992 (with addenda), Safety Standard for Rough Terrain Forklift Trucks, IBR approved for §1910.266(f)(4).
- (h) The following material is available for purchase from the American Society for Testing and Materials (ASTM), 1916 Race Street, Philadelphia, PA 19103:
- (1) ASTM A 47-69 Malleable Iron Castings, IBR approved for §1910.111(b)(7)(vi).
  - (2) ASTM A 53-69 Welded and Seamless Steel Pipe, IBR approved for §§1910.110(b)(8)(i)(a) and (b) and 1910.110(b)(7)(iv).
  - (3) ASTM A 126-66 Gray Iron Casting for Valves, Flanges and Pipe Fitting, IBR approved for §1910.111(b)(7)(vi).
  - (4) ASTM A 391-65 (ANSI G61.1-1968) Alloy Steel Chain, IBR approved for §1910.184(e)(4).
  - (5) ASTM A 395-68 Ductile Iron for Use at Elevated Temperatures, IBR approved for §1910.111(b)(7)(vi).
  - (6) ASTM B 88-69 Seamless Copper Water Tube, IBR approved for §1910.110(b)(8)(i)(a) and (13)(ii)(b)(1).

- (7) ASTM B 88-66A Seamless Copper Water Tube, IBR approved for §1910.252(d)(1)(i)(A)(2).
  - (8) ASTM B 117-64 Salt Spray (Fog) Test, IBR approved for §1910.268(g)(2)(i)(A).
  - (9) ASTM B 210-68 Aluminum-Alloy Drawn Seamless Tubes, IBR approved for §1910.110(b)(8)(ii).
  - (10) ASTM B 241-69, IBR approved for §1910.110(b)(8)(i) introductory text.
  - (11) ASTM D 5-65 Test for Penetration by Bituminous Materials, IBR approved for §1910.106(a)(17).
  - (12) ASTM D 56-70 Test for Flash Point by Tag Closed Tester, IBR approved for §1910.106(a)(14)(i).
  - (13) ASTM D 86-62 Test for Distillation of Petroleum Products, IBR approved for §§1910.106(a)(5) and 1910.119(b) "Boiling point."
  - (14) ASTM D 88-56 Test for Saybolt Viscosity, IBR approved for §1910.106(a)(37).
  - (15) ASTM D 93-71 Test for Flash Point by Pensky Martens, IBR approved for §1910.106(a)(14)(ii).
  - (16) ASTM D 323-68, IBR approved for §1910.106(a)(30).
  - (17) ASTM D 445-65 Test for Viscosity of Transparent and Opaque Liquids, IBR approved for §1910.106(a)(37).
  - (18) ASTM D 1692-68 Test for Flammability of Plastic Sheeting and Cellular Plastics, IBR approved for §1910.103(c)(1)(v)(d).
  - (19) ASTM D 2161-66 Conversion Tables for SUS, IBR approved for §1910.106(a)(37).
- (i) The following material is available for purchase from the American Welding Society (AWS), 550 NW LeJeune Road, PO Box 351040, Miami, FL 33135:
- (1) (Reserved)
  - (2) (Reserved)
  - (3) AWS B3.0-41 Standard Qualification Procedure, IBR approved for §1910.67(c)(5)(i).
  - (4) AWS D1.0-1966 Code for Welding in Building Construction, IBR approved for §1910.27(b)(6).
  - (5) AWS D2.0-69 Specifications for Welding Highway and Railway Bridges, IBR approved for §1910.67(c)(5)(iv).
  - (6) AWS D8.4-61 Recommended Practices for Automotive Welding Design, IBR approved for §1910.67(c)(5)(ii).
  - (7) AWS D10.9-69 Standard Qualification of Welding Procedures and Welders for Piping and Tubing, IBR approved for §1910.67(c)(5)(iii).
- (j) The following material is available for purchase from the Department of Commerce:
- (1) Commercial Standard, CS 202-56 (1961) "Industrial Lifts and Hinged Loading Ramps," IBR approved for §1910.30(a)(3).
  - (2) Publication "Model Performance Criteria for Structural Fire Fighters' Helmets," IBR approved for §1910.156(e)(5)(i).
- (k) The following material is available for purchase from the Compressed Gas Association (CGA), 1235 Jefferson Davis Highway, Arlington, VA 22202:
- (1) CGA C-6 (1968) Standards for Visual Inspection of Compressed Gas Cylinders, IBR approved for §1910.101(a).
  - (2) CGA C-8 (1962) Standard for Requalification of ICC-3HT Cylinders, IBR approved for §1910.101(a).
  - (3) CGA G-1 [~~(1966)~~] **-2003** Acetylene, IBR approved for §1910.102(a). **Copies of CGA Pamphlet G-1-2003 are available for purchase from the: Compressed Gas Association, Inc., 4221 Walney Road, 5<sup>th</sup> Floor, Chantilly, VA 20151; telephone: 708-788-2700; fax: 703-961-1831; e-mail: [cga@cganet.com](mailto:cga@cganet.com) . NOTE: In Oregon, OAR 437-002-2102(1) applies.**

~~[(4) CGA G-1.3 (1959) Acetylene Transmission for Chemical Synthesis, IBR approved for §1910.102(b).]~~

~~[(5) CGA G-1.4 (1966) Standard for Acetylene Cylinder Charging Plants, IBR approved for §1910.102(b).]~~

~~[(6)4] CGA G-7.1 (1966) Commodity Specification, IBR approved for §1910.134(d)(1).~~

~~[(7)5] CGA G-8.1 (1964) Standard for the Installation of Nitrous Oxide Systems at Consumer Sites, IBR approved for §1910.105.~~

~~[(8)6] CGA P-1 (1965) Safe Handling of Compressed Gases, IBR approved for §1910.101(b).~~

~~[(9)7] CGA P-3 (1963) Specifications, Properties, and Recommendations for Packaging, Transportation, Storage and Use of Ammonium Nitrate, IBR approved for §1910.109(i)(1)(ii)(b).~~

~~[(10)8] CGA S-1.1 (1963) and 1965 Addenda. Safety Release Device Standards – Cylinders for Compressed Gases, IBR approved for §§1910.101(c); 1910.103(c)(1)(iv)(a)(2).~~

~~[(11)9] CGA S-1.2 (1963) Safety Release Device Standards, Cargo and Portable Tanks for Compressed Gases, IBR approved for §§1910.101(c); 1910.103(c)(1)(iv)(a)(2).~~

~~[(12)10] CGA S-1.3 (1959) Safety Release Device Standards – Compressed Gas Storage Containers, IBR approved for §§1910.103(c)(1)(iv)(a)(2); 1910.104(b)(6)(iii); and 1910.111(d)(4)(ii)(b).~~

~~[(13)11] CGA 1957 Standard Hose Connection Standard, IBR approved for §1910.253(e)(4)(v) and (5)(iii).~~

~~[(14)12] CGA and RMA (Rubber Manufacturer's Association) Specification for Rubber Welding Hose (1958), IBR approved for §1910.253(e)(5)(i).~~

~~[(15)13] CGA 1958 Regulator Connection Standard, IBR approved for §1910.253(e)(4)(iv) and (6).~~

(l) The following material is available for purchase from the Crane Manufacturer's Association of American, Inc. (CMAA), 1 Thomas Circle NW, Washington, DC 20005:

(1) CMAA Specification 1B61, Specifications for Electric Overhead Traveling Cranes, IBR approved for §1910.179(b)(6)(i).

(2) (Reserved)

(m) The following material is available for purchase from the General Services Administration:

(1) GSA Pub. GG-B-0067b, Air Compressed for Breathing Purposes, or Interim Federal Specifications, Apr. 1965, IBR approved for §1910.134(d)(4).

(2) (Reserved)

(n) The following material is available for purchase from the Department of Health and Human Services:

(1) Publication No. 76-120 (1975), List of Personal Hearing Protectors and Attenuation Data, IBR approved for §1910.95 App. B.

(2) (Reserved)

(o) The following material is available for purchase from the Institute of Makers of Explosives (IME), 420 Lexington Avenue, New York, NY 10017:

(1) IME Pamphlet No. 17, 1960, Safety in the Handling and Use of Explosives, IBR approved for §1910.261(a)(4)(iii) and (c)(14)(ii).

(2) (Reserved)

(p) The following material is available for purchase from the National Electrical Manufacturer's Association (NEMA):

(1) NEMA EW-1 (1962) Requirements for Electric Arc Welding Apparatus, IBR approved for §1910.254(b)(1).

(2) (Reserved)

(q) The following material is available for purchase from the National Fire Protection Association (NFPA), 1 Batterymarch Park, Quincy, MA 02269:

- (1) NFPA 30 (1969) Flammable and Combustible Liquids Code, IBR approved for §1910.178(f)(1).
- (2) NFPA 32-1970 Standard for Dry Cleaning Plants, IBR approved for §1910.106(j)(6)(i).
- (3) NFPA 33-1969 Standard for Spray Finishing Using Flammable and Combustible Material, IBR approved for §1910.94(c)(2).
- (4) NFPA 34-1966 Standard for Dip Tanks Containing Flammable or Combustible Liquids, IBR approved for §1910.124(b)(4)(iv).
- (5) NFPA 34-1995 Standard for Dip Tanks Containing Flammable or Combustible Liquids, IBR approved for §1910.124(b)(4)(ii).
- (6) NFPA 35-1970 Standard for the Manufacture of Organic Coatings, IBR approved for §1910.106(j)(6)(ii).
- (7) NFPA 36-1967 Standard for Solvent Extraction Plants, IBR approved for §1910.106(j)(6)(iii).
- (8) NFPA 37-1970 Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines, IBR approved for §§1910.106(j)(6)(iv) and 1910.110(b)(20)(iv)(c) and (e)(11).
- (9) NFPA 51B-1962 Standard for Fire Protection in Use of Cutting and Welding Processes, IBR approved for §1910.252(a)(1) introductory text.
- (10) NFPA 54-1969 Standard for the Installation of Gas Appliances and Gas Piping, IBR approved for §1910.110(b)(20)(iv)(a).
- (11) NFPA 54A-1969 Standard for the Installation of Gas Piping and Gas Equipment on Industrial Premises and Certain Other Premises, IBR approved for §1910.110(b)(20)(iv)(b).
- (12) NFPA 58-1969 Standard for the Storage and Handling of Liquefied Petroleum Gases (ANSI Z106.1-1970), IBR approved for §§1910.110(b)(3)(iv) and (i)(3)(i) and (ii); and 1910.178(f)(2).
- (13) NFPA 59-1968 Standard for the Storage and Handling of Liquefied Petroleum Gases at Utility Gas Plants, IBR approved for §1910.110(b)(3)(iv) and (i)(2)(iv).
- (14) NFPA 62-1967 Standard for the Prevention of Dust Explosions in the Production, Packaging, and Handling of Pulverized Sugar and Cocoa, IBR approved for §1910.263(k)(2)(i).
- (15) NFPA 68-1954 Guide for Explosion Venting, IBR approved for §1910.94(a)(2)(iii).
- (16) (Reserved)
- (17) NFPA 78-1968 Lightning Protection Code, IBR approved for §1910.109(i)(6)(ii).
- (18) NFPA 80-1968 Standard for Fire Doors and Windows, IBR approved for §1910.106(d)(4)(i).
- (19) NFPA 80-1970 Standard for the Installation of Fire Doors and Windows, IBR approved for §1910.253(f)(6)(i)(I).
- (20) NFPA 86A-1969 Standard for Oven and Furnaces Design, Location and Equipment, IBR approved for §§1910.107(j)(1) and (I)(3) and 1910.108(b)(2) and (d)(2).
- (21) NFPA 91-1961 Standard for the Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying (ANSI Z33.1-61), IBR approved for §1910.107(d)(1).
- (22) NFPA 91-1969 Standards for Blower and Exhaust Systems, IBR approved for §1910.108(b)(1).
- (23) NFPA 96-1970 Standard for the Installation of Equipment for the Removal of Smoke and Grease Laden Vapors from Commercial Cooking Equipment, IBR approved for §1910.110(b)(20)(iv)(d).

- (24) NFPA 101-1970 Code for Life Safety From Fire in Buildings and Structures, IBR approved for §1910.261(a)(4)(ii).
- (25) NFPA 203M-1970 Manual on Roof Coverings, IBR approved for §1910.109(i)(1)(iii)(c).
- (26) NFPA 251-1969 Standard Methods of Fire Tests of Building Construction and Materials, IBR approved for §1910.106(d)(3)(ii) introductory text and (d)(4)(i).
- (27) NFPA 302-1968 Fire Protection Standard for Motor-Craft (Pleasure and Commercial), IBR approved for §1910.265(d)(2)(iv) introductory text.
- (28) NFPA 385-1966 Recommended Regulatory Standard for Tank Vehicles for Flammable and Combustible Liquids, IBR approved for §1910.106(g)(1)(i)(e)(1).
- (29) NFPA 496-1967 Standard for Purged Enclosures for Electrical Equipment in Hazardous Locations, IBR approved for §1910.103(c)(1)(ix)(e)(1).
- (30) NFPA 505-1969 Standard for Type Designations, Areas of Use, Maintenance, and Operation of Powered Industrial Trucks, IBR approved for §1910.110(e)(2)(iv).
- (31) NFPA 566-1965 Standard for the Installation of Bulk Oxygen Systems at Consumer Sites, IBR approved for §1910.253(b)(4)(iv) and (c)(2)(v).
- (32) NFPA 656-1959 Code for the Prevention of Dust Ignition in Spice Grinding Plants, IBR approved for §1910.263(k)(2)(i).
- (33) NFPA 1971-1975 Protective Clothing for Structural Fire Fighting, IBR approved for §1910.156(e)(3)(ii) introductory text.

**(34) NFPA 51A (2001) Standard for Acetylene Cylinder Charging Plants, IBR approved for §1910.102(b) and (c). Copies of NFPA 51A-2001 are available for purchase from the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471; telephone: 1-800-344-3557; e-mail: [custserv@nfpa.org](mailto:custserv@nfpa.org) .NOTE: In Oregon, OAR 437-002-2102 applies.**

**(35) NFPA 51A (2006) Standard for Acetylene Cylinder Charging Plants, IBR approved for §1910.102(b) and (c). Copies of NFPA 51A-2006 are available for purchase from the National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471; telephone: 1-800-344-3557; e-mail: [custserv@nfpa.org](mailto:custserv@nfpa.org) .NOTE: In Oregon, OAR 437-002-2102 applies.**

(r) The following material is available for purchase from the National Food Plant Institute, 1700 K St NW, Washington, DC 20006:

- (1) Definition and Test Procedures for Ammonium Nitrate Fertilizer (Nov. 1964), IBR approved for §1910.109 Table H-22, fn. 3.
- (2) (Reserved)

(s) The following material is available for purchase from the National Institute for Occupational Safety and Health (NIOSH):

- (1) Registry of Toxic Effects of Chemical Substances, 1978, IBR approved for §1910.20(c)(13)(i) and Appendix B.
- (2) Development of Criteria for Fire Fighters Gloves; Vol. II, Part II; Test Methods, 1976, IBR approved for §1910.156(e)(4)(i) introductory text.
- (3) NIOSH Recommendations for Occupational Safety and Health Standards (Sept. 1987), IBR approved for §1910.120 PEL definition.

(t) The following material is available for purchase from the Public Health Service:

- (1) U.S. Pharmacopeia, IBR approved for §1910.134(d)(1).
- (2) Publication No. 934 (1962), Food Service Sanitation Ordinance and Code, Part V of the Food Service Sanitation Manual, IBR approved for §1910.142(i)(1).

(u) The following material is available for purchase from the Society of Automotive Engineers (SAE), 485 Lexington Avenue, New York, NY 10017:

- (1) SAE J185, June 1988, Recommended Practice for Access Systems for Off-Road Machines, IBR approved for §1910.266(f)(5)(i).

- (2) SAE J231, January 1981, Minimum Performance Criteria for Falling Object Protective Structure (FOPS), IBR approved for §1910.266(f)(3)(ii).
  - (3) SAE J386, June 1985, Operator Restraint Systems for Off-Road Work Machines, IBR approved for §1910.266(d)(3)(iv).
  - (4) SAE J397, April 1988, Deflection Limiting Volume – ROPS/FOPS Laboratory Evaluation, IBR approved for §1910.266(f)(3)(iv).
  - (5) SAE 765 (1961) SAE Recommended Practice: Crane Loading Stability Test Code, IBR approved for §1910.180(c)(1)(iii) and (e)(2)(iii)(a).
  - (6) SAE J1040, April 1988, Performance Criteria for Rollover Protective Structures (ROPS) for Construction, Earthmoving, Forestry and Mining Machines, IBR approved for §1910.266(f)(3)(ii).
- (v) The following material is available for purchase from the Fertilizer Institute, 1015 18th Street NW, Washington, DC 20036:
- (1) Standard M-1 (1953, 1955, 1957, 1960, 1961, 1963, 1965, 1966, 1967, 1968), Superseded by ANSI K61.1-1972, IBR approved for §1910.111(b)(1)(i) and (iii).
  - (2) (Reserved)
- (w) The following material is available for purchase from Underwriters Laboratories (UL), 207 East Ohio Street, Chicago, IL 60611:
- (1) UL 58-61 Steel Underground Tanks for Flammable and Combustible Liquids, 5th Ed., IBR approved for §1910.106(b)(1)(iii)(a)(1).
  - (2) UL 80-63 Steel Inside Tanks for Oil-Burner Fuel, IBR approved for §1910.106(b)(1)(iii)(a)(1).
  - (3) UL 142-68 Steel Aboveground Tanks for Flammable and Combustible Liquids, IBR approved for §1910.106(b)(1)(iii)(a)(1).
- Stat. Auth.: ORS 654.025(2) and 656.726(4).  
 Stat. Implemented: ORS 654.001 through 654.295.  
 Hist: APD Admin. Order 17-1988, f. 11/10/88, ef. 11/10/88.  
 OR-OSHA Admin. Order 4-1997, f. 4/2/97, ef. 4/2/97.  
 OR-OSHA Admin. Order 8-1999, f. 8/6/99, ef. 8/6/99.  
 OR-OSHA Admin. Order 4-2005, f. 12/14/05, ef. 12/14/05.  
 OR-OSHA Admin. Order 4-2007, f. 8/15/07, ef. 8/15/07.  
 OR-OSHA Admin. Order 7-2008, f. 5/30/08, ef. 5/30/08.  
**OR-OSHA Admin. Order X-2010, f. X/XX/10, ef. X/XX/10.**

## Division 2/H, Hazardous Materials

437-002-0100 Adoption by Reference. In addition to, and not in lieu of, any other safety and health codes contained in OAR Chapter 437, the Department adopts by reference the following federal ~~rules as~~ **regulations** printed **as part of** ~~in~~ the Code of Federal Regulations, 29 CFR 1910, ~~[revised as of 7/1/02, and any subsequent amendments published]~~ in the Federal Register ~~[as listed below]~~:

- (1) 29 CFR 1910.101 Compressed gases (General requirements), published ~~[6/27/74, Federal Register, vol. 39, p. 23502;]~~ 3/7/96, FR vol. 61, no. 46, p. 9236.
- (2) 29 CFR 1910.102 Acetylene~~], published 6/27/74, Federal Register, vol. 39, p. 23502; 3/7/96, FR vol. 61, no. 46, p. 9236].~~ **Repealed. Oregon OSHA Admin. Order X-2010, f. X/XX/10, ef. X/XX/10.**

- (3) 29 CFR 1910.103 Hydrogen, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 10/24/78, FR vol. 43, p. 49746; 4/12/88, FR vol. 53, p. 12121; 8/6/90, FR vol. 55, no. 151, p. 32015; 6/30/93, FR vol. 58, no. 124, p. 35309; 3/7/96, FR vol. 61, no. 46, p. 9236; amended 6/8/04, FR vol. 69, p. 31880-31882;~~] 12/14/07, FR vol. 72, no. 240, p. 71061.
- (4) 29 CFR 1910.104 Oxygen, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 10/24/78, FR vol. 43, p. 49746;~~] 3/7/96, FR vol. 61, no. 46, p. 9237.
- (5) 29 CFR 1910.105 Nitrous oxide, published [~~6/27/74, Federal Register, vol. 39, p. 23502;~~] 3/7/96, FR vol. 61, no. 46, p. 9237.
- (6) 29 CFR 1910.106 Flammable and combustible liquids, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 1/27/75, FR vol. 40, p. 3982; 6/2/75, FR vol. 40, p. 23743; 10/24/78, FR vol. 43, p. 49746; 11/7/78, FR vol. 43, p. 51759; 9/7/82, FR vol. 47, p. 39164; 9/12/86, FR vol. 51, p. 34560; 4/12/88, FR vol. 53, p. 12121; 8/6/90, FR vol. 55, no. 151, p. 32015; 3/7/96, FR vol. 61, no. 46, p. 9237;~~] 9/13/05, FR vol. 70, no. 176, p. 53925.
- (7) 29 CFR 1910.107 Spray finishing using flammable and combustible materials, [~~published 6/27/74, Federal Register, vol. 39, p. 23502; amended 9/12/80, FR vol. 45, p. 60704; 2/10/84, FR vol. 49, p. 5322; 4/12/88, FR vol. 53, p. 12121; 3/7/96, FR vol. 61, no. 46, p. 9237;~~] amended with AO 3-2003, removed 1910.107, and Oregon note added, f. and ef. 4/21/03.
- (8) 29 CFR 1910.108 Reserved. Published 3/23/99, Federal Register, vol. 64, no. 55, p. 13909.
- (9) 29 CFR 1910.109 Explosives and blasting agents, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 10/24/78, FR vol. 43, p. 49747; 9/12/80, FR vol. 45, p. 60704; 4/12/88, FR vol. 53, p. 12122; 2/24/92, FR vol. 57, no. 36, p. 6403; 3/29/93, FR vol. 58, no. 58, p. 16496; 6/30/93, FR vol. 58, no. 124, p. 35309; 3/7/96, FR vol. 61, no. 46, p. 9237;~~] 6/18/98, FR vol. 63, no. 117, p. 33466.
- (10) 29 CFR 1910.110 Storage and handling of liquefied petroleum gases, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 10/24/78, FR vol. 43, p. 49747; 2/10/84, FR vol. 49, p. 5322; 4/12/88, FR vol. 53, p. 12122; 6/20/90, FR vol. 55, p. 25094; 8/6/90, FR vol. 55, no. 151, p. 32015; 3/19/93, FR vol. 58, no. 52, p. 15089; 6/30/93, FR vol. 58, no. 124, p. 35309; 3/7/96, FR vol. 61, no. 46, p. 9237; 6/18/98, FR vol. 63, no. 117, p. 33466;~~] 12/14/07, FR vol. 72, no. 240, p. 71061.
- (11) 29 CFR 1910.111 Storage and handling of anhydrous ammonia, published [~~6/27/74, Federal Register, vol. 39, p. 23502; amended 10/24/78, FR vol. 43, p. 49748; 2/10/84, FR vol. 49, p. 5322; 4/12/88, FR vol. 53, p. 12122; 3/7/96, FR vol. 61, no. 46, p. 9238; 1/8/98, FR vol. 63, no. 5, p. 1269; 6/18/98, FR vol. 63, no. 117, p. 33466;~~] amended with AO 12-2001, Oregon note added, f. and ef. 10/26/01; 12/14/07, FR vol. 72, no. 240, p. 71061.
- (12) Reserved for 29 CFR 1910.112 (Reserved)
- (13) Reserved for 29 CFR 1910.113 (Reserved)
- (14) 29 CFR 1910.114 Removed. Published 3/7/96, Federal Register, vol. 61, no. 46, p. 9238.
- (15) 29 CFR 1910.115 Removed. Published 3/7/96, Federal Register, vol. 61, no. 46, p. 9238.
- (16) 29 CFR 1910.116 Removed. Published 3/7/96, Federal Register, vol. 61, no. 46, p. 9238.
- (17) 29 CFR 1910.119 Process safety management of highly hazardous chemicals, [~~published 2/24/92, Federal Register, vol. 57, no. 36, pp. 6403-6417; amended 3/4/92, FR vol. 57, no. 43, p. 7847; 6/1/92, FR vol. 57, no. 105, pp. 23060-4.~~] (NOTE: Excepted rules adopted by reference by OR-OSHA by Admin. Order 6-1994 on 9/30/94.) Amended 3/7/96, FR vol. 61, no. 46, p. 9238; amended with AO 12-2001, Oregon note added, f. and ef. 10/26/01.
- (18) 29 CFR 1910.120 Hazardous waste operations and emergency response, Interim Final Rules, [~~published 12/19/86, Federal Register, vol. 51, no. 244, pp. 45663-45675; and amended 5/5/87, FR vol. 52, no. 85, pp. 16241-16243. Final Rules were published 3/6/89, FR vol. 54, no. 42, pp. 9294-9335; amended 4/13/90, FR vol. 55, no. 72, pp. 14072-14075; 4/18/91, FR vol. 56, no. 75, pp. 15832-15833;~~] amended 8/22/94, FR vol. 59, no. 161, pp. 43270-43275; 3/7/96, FR

vol. 61, no. 46, p. 9238; amended with AO 12-2001, Oregon note added, f. and ef. 10/26/01; 4/3/06, FR vol. 71, no. 63, p. 16669.

(19) 29 CFR 1910.121 Reserved. Published 3/23/99, Federal Register, vol. 64, no. 55, p. 13909.

(20) 29 CFR 1910.122 Table of contents~~[, published 3/23/99, Federal Register, vol. 64, no. 55, p. 13909]~~. Repealed with OR-OSHA Admin. Order 9-2007, f. and ef. 12/3/07.

(21) 29 CFR 1910.123 Dipping and coating operations: Coverage and definitions~~[, published 3/23/99, Federal Register, vol. 64, no. 55, p. 13909]~~. Repealed with OR-OSHA Admin. Order 9-2007, f. and ef. 12/3/07.

(22) 29 CFR 1910.124 General requirements for dipping and coating operations~~[, published 3/23/99, Federal Register, vol. 64, no. 55, p. 13909; amended with AO 4-2002, repeal (g)(2), and Oregon note added, f. and ef. 5/30/02]~~. Repealed with OR-OSHA Admin. Order 9-2007, f. and ef. 12/3/07.

(23) 29 CFR 1910.125 Additional requirements for dipping and coating operations that use flammable or combustible liquids~~[, published 3/23/99, Federal Register, vol. 64, no. 55, p. 13910]~~. Repealed with OR-OSHA Admin. Order 9-2007, f. and ef. 12/3/07.

(24) 29 CFR 1910.126 Additional requirements for special dipping and coating applications~~[, published 3/23/99, Federal Register, vol. 64, no. 55, p. 13911]~~. Repealed with OR-OSHA Admin. Order 9-2007, f. and ef. 12/3/07.

These standards are on file with the Oregon Occupational Safety and Health Division, Oregon Department of Consumer and Business Services, and the United States Government Printing Office.

Stat. Auth.: ORS 654.025(2) and ORS 656.726(4).

Stats. Implemented: ORS 654.001 through 654.295.

Hist: APD Admin. Order 19-1988, f. 11/17/88, ef. 11/17/88 (Hazardous Wastes – Interim).

APD Admin. Order 12-1989, f. 7/14/89, ef. 7/14/90 (Hazardous Wastes – Final).

OR-OSHA Admin. Order 22-1990, f. 9/28/90, ef. 10/1/90 (Hazwaste).

OR-OSHA Admin. Order 2-1992, f. 2/6/92, ef. 5/1/92 (all except Hazwaste).

OR-OSHA Admin. Order 3-1992, f. 2/6/92, ef. 2/6/92 (Hazwaste).

OR-OSHA Admin. Order 8-1992, f. 8/13/92, ef. 11/24/92 (PSM).

OR-OSHA Admin. Order 6-1994, f. 9/30/94, ef. 9/30/94 (PSM).

OR-OSHA Admin. Order 3-1995, f. 2/22/95, ef. 2/22/95 (Haz Wst/Emg Rsp).

OR-OSHA Admin. Order 4-1997, f. 4/2/97, ef. 4/2/97.

OR-OSHA Admin. Order 3-1998, f. 7/7/98, ef. 7/7/98.

OR-OSHA Admin. Order 4-1999, f. 4/30/99, ef. 4/30/99.

OR-OSHA Admin. Order 8-1999, f. 8/6/99, ef. 8/6/99.

OR-OSHA Admin. Order 12-2001, f. 10/26/01, ef. 10/26/01.

OR-OSHA Admin. Order 4-2002, f. 5/30/02, ef. 5/30/02.

OR-OSHA Admin. Order 3-2003, f. 4/21/03, ef. 4/21/03.

OR-OSHA Admin. Order 4-2004, f. 9/15/04, ef. 9/15/04.

OR-OSHA Admin. Order 4-2005, f. 12/14/05, ef. 12/14/05.

OR-OSHA Admin. Order 4-2006, f. 7/24/06, ef. 7/24/06.

OR-OSHA Admin. Order 9-2007, f. 12/3/07, ef. 12/3/07.

OR-OSHA Admin. Order 7-2008, f. 5/30/08, ef. 5/30/08.

**OR-OSHA Admin. Order X-2010, f. X/XX/10, ef. X/XX/10.**

~~[1910.102 Acetylene.~~

~~(a) Cylinders. The in-plant transfer, handling, storage, and utilization of acetylene in cylinders shall be in accordance with Compressed Gas Association Pamphlet G-1-1966, which is incorporated by reference as specified in §1910.6.~~

~~(b) Piped systems. The piped systems for the in-plant transfer and distribution of acetylene shall be designed, installed, maintained, and operated in accordance with Compressed Gas Association Pamphlet G-1.3-1959, which is incorporated by reference as specified in §1910.6.~~

~~(c) Generators and filling cylinders. Plants for the generation of acetylene and the charging (filling) of acetylene cylinders shall be designed, constructed, and tested in accordance with the standards prescribed in Compressed Gas Association Pamphlet G-1.4-1966, which is incorporated by reference as specified in §1910.6.~~

~~Stat. Auth.: ORS 654.025(2) and ORS 656.726(3).~~

~~Stats. Implemented: ORS 654.001 to 654.295.~~

~~Hist: OR OSHA Admin. Order 2-1992, f. 2/6/92, ef. 5/1/92.~~

~~OR OSHA Admin. Order 4-1997, f. 4/2/97, ef. 4/2/97.]~~

**437-002-2102 Acetylene.**

**(1) Cylinders.**

**(a) Employers must ensure that the manufacturing, in-plant transfer, transportation, handling, storage, and use of acetylene in cylinders comply with this rule and the provisions of Compressed Gas Association (CGA) Pamphlet G-1-2003 (“Acetylene”) (Compressed Gas Association, Inc., 11<sup>th</sup> ed., 2003).**

**(b) Definitions.**

**Confined space:**

**(i) Large enough and configured so that an employee can bodily enter to perform assigned work.**

**(ii) Limited or restricted entry or exit (for example, tanks, vessels, silos, storage bins, hoppers, vaults, and pits).**

**(iii) Not designed for continuous employee occupancy.**

**Enclosed space – Spaces that are surrounded by something, and the only openings are access openings, for example, drawers, closets, unventilated cabinets, automobile trunks, unventilated vehicle compartments, or toolboxes.**

Handling – Moving, connecting, or disconnecting a compressed gas container under normal conditions.

PSIG (Gauge Pressure) – Pressure above or below local atmospheric pressure displayed as pound per square inch.

Use – Act of withdrawing and using the gas in a non-recoverable manner for applications other than manufacturing or repackaging of compressed gasses.

Secure – Cylinders are arranged to prevent movement, or maintain a minimum of three points of contact with other cylinders or walls.

(c) Acetylene Cylinders General Requirements.

(A) You must:

(i) Store and use cylinders in a vertical position.

NOTE: Gas suppliers and distributors may store secured containers in a horizontal position.

(ii) Secure cylinder(s) to prevent falling or movement;.

(iii) Use a cylinder cart or cylinder pallet to move acetylene cylinders.

(iv) Attach the cylinder to a pressure reducing regulator or blow back manifold before opening the cylinder valve.

(v) Remove pressure regulators before moving cylinders unless they are secured in an upright position on a cylinder cart.

(vi) Back out regulator adjusting screws before opening cylinder valves.

(vii) Protect cylinders from contact with welding spatters and cutting or burning slag.

(B) You must not:

(i) Drop cylinders.

(ii) Drag cylinders.

(iii) Apply a torch to the side of a cylinder.

(iv) Hoist cylinders using lifting magnets, slings, ropes, chains, or any other device where the cylinders form a part of the carrier.

**(v) Handle cylinders so that the bottom fusible metal pressure relief device can strike an object.**

**(vi) Expose any part of your body to the line of discharge of a fusible metal pressure relief device.**

**(vii) Use acetylene at a pressure exceeding 15 psig.**

**(viii) Exceed an acetylene withdrawal rate of 1/7 the cylinder contents per hour for welding, cutting, and allied processes.**

**(d) Acetylene Cylinders Storage.**

**(A) You must store cylinders.**

**(i) In assigned locations.**

**(ii) In areas posted with signs prohibiting smoking and open flame.**

**(iii) In well-ventilated locations.**

**(iv) Away from heat sources.**

**(v) Where they are protected from corrosion.**

**(B) You must not store cylinders:**

**(i) Where they contact electrical welding equipment or electrical circuits.**

**(ii) Where they can be struck by heavy objects.**

**(iii) In enclosed spaces.**

**(iv) In confined spaces.**

**(v) Within 20 feet of oxygen unless they are separated by a non-combustible partition. Partitions must:**

**(I) Vertically extend not less than 18 inches above the tallest container and not less than 5 feet..**

**(II) Laterally extend not less than 18 inches beyond the sides of the containers.**

**(III) Have a fire resistance rating of at least 1/2 hour.**

**(vi) With full and empty cylinders grouped together.**

**NOTE 1: Single cylinders of acetylene and oxygen can be stored secured on a cart or used adjacent to each other without a partition.**

**NOTE 2: Single cylinders of acetylene and oxygen located at a work station are considered to be in use.**

**NOTE 3: This does not apply to the cylinder distribution process.**

**(e) Transporting Acetylene Cylinders.**

**(A) You must protect cylinders and attached regulators:**

**(i) From damage when being transported in open vehicles.**

**(ii) From abnormal mechanical shock that is likely to damage the cylinder, valve, or fusible metal pressure relief device.**

**(B) You must not transport cylinders in automobiles or unventilated, enclosed vehicle compartments.**

**(f) Connecting and Disconnecting Acetylene Cylinders for Use.**

**(A) You must:**

**(i) Return cylinders with contaminated valves (mud, oil, grease, and similar material) to the supplier.**

**(ii) Secure the cylinder(s) where it can not contact any electrical circuit or electrical welding equipment.**

**(iii) Inspect hoses before each shift.**

**(iv) Remove damaged hoses from service.**

**(v) Check pressurized cylinder valves, fuse plugs and all connections for leaks prior to use.**

**(vi) Use industry approved leak detection solution or oil free soapy water.**

**(vii) Notify the gas supplier of any leaking cylinder, and follow the supplier's instruction for returning the cylinder.**

**(viii) Back out the regulator adjusting screws before opening cylinder valves.**

**(ix) Close the system valves and release all gas from the regulators before removing the regulator from a cylinder.**

**(x) Keep the cylinder key used for opening the cylinder valve on the valve spindle when the cylinder is in use.**

**(B) You must not attempt to repair or alter cylinders or valves.**

**(2) Piped Systems.**

**(a) Employers must comply with Chapter 9 (“Acetylene Piping”) of NFPA 51A-2006 (“Standard for Acetylene Charging Plants”) (National Fire Protection Association, 2006 ed., 2006).**

**(b) When employers can demonstrate that the facilities, equipment, structures, or installations used to generate acetylene or to charge (fill) acetylene cylinders were installed prior to February 16, 2006, these employers may comply with the provisions of Chapter 7 (“Acetylene Piping”) of NFPA 51A-2001 (“Standard for Acetylene Charging Plants”) (National Fire Protection Association, 2001ed., 2001).**

**(c) The provisions of 437-002-2102(2)(b) also apply when the facilities, equipment, structures, or installation used to generate acetylene or to charge (fill) acetylene cylinders were approved for construction or installation prior to February 16, 2006, but constructed and installed on or after that date.**

**(d) For additional information on acetylene piping systems, see CGA G-1.2-2006, Part 3 (“Acetylene piping”) (Compressed gas Association, Inc., rd ed., 2006**

**(3) Generators and filling cylinders.**

**(a) Employer must ensure that facilities, equipment, structures, or installations used to generate acetylene or to charge (fill) acetylene cylinders comply with the provisions of NFPA 51A-2006 (“Standard for Acetylene Charging plants”) (National Fire Protection Association, 2006 ed., 2006).**

**(b) When employers can demonstrate that the facilities, equipment, structures, or installations used to generate acetylene or to charge (fill) of acetylene cylinders were constructed or installed prior to February 16, 2006, these employers may comply with the provisions of NFPA 51A-2001 (“Standard for Acetylene Charging Plants”) (National Fire Protection Association, 2001 ed., 2001).**

**(c) The provisions of 437-002-2102(3)(b) also apply when the facilities, equipment, structures, or installation were approved for construction or installation prior to February 16, 2006, but constructed and installed on or after that date.**

**Stat. Auth.: ORS 654.025(2) and 656.726(4).**

**Stats. Implemented: ORS 654.001 through 654.295.**

**Hist.: OR-OSHA Admin. Order X-2010, f. X/XX/10, ef. X/XX/10.**