

8. *Standard for Pneumatic Conveying Systems for Handling Feed, Flour, Grain and Other Agricultural Dusts*, NFPA 66; National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

9. *Guide for Explosion Venting*, NFPA 68; National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

10. *Standard on Explosion Prevention Systems*, NFPA 69; National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

11. *Safety-Operations Plans*; U.S. Department of Agriculture, Washington, DC 20250.

12. *Inplant Fire Prevention Control Programs*; Mill Mutual Fire Prevention Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

13. *Guidelines for Terminal Elevators*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

14. *Standards for Preventing the Horizontal and Vertical Spread of Fires in Grain Handling Properties*; Mill Mutual Fire Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

15. *Belt Conveyors for Bulk Materials*, Part I and Part II, Data Sheet 570, Revision A; National Safety Council, 425 North Michigan Avenue, Chicago, Illinois 60611.

16. *Suggestions for Precautions and Safety Practices in Welding and Cutting*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

17. *Food Bins and Tanks*, Data Sheet 524; National Safety Council, 425 North Michigan Avenue, Chicago, Illinois 60611.

18. *Pneumatic Dust Control in Grain Elevators*; National Academy of Sciences, Washington, DC. (Available from National Technical Information Service, Springfield, Virginia 22151.)

19. *Dust Control Analysis and Layout Procedures for Grain Storage and Processing Plants*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

20. *Standard for the Installation of Blower and Exhaust Systems for Dust, Stock and Vapor Removal*, NFPA 91; National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

21. *Standards for the Installation of Direct Heat Grain Driers in Grain and Milling Properties*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

22. *Guidelines for Lubrication and Bearing Maintenance*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

23. *Organized Maintenance in Grain and Milling Properties*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

24. *Safe and Efficient Elevator Legs for Grain and Milling Properties*; Mill Mutual Fire Prevention Bureau, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

25. *Explosion Venting and Suppression of Bucket Elevators*; National Grain and Feed Association, P.O. Box 28328, Washington, DC 20005.

26. *Lightning Protection Code*, NFPA 78; National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

27. *Occupational Safety in Grain Elevators*, DHHS (NIOSH) Publication No. 83-126; National Institute for Occupational Safety and Health, Morgantown, West Virginia 26505.

28. *Retrofitting and Constructing Grain Elevators*; National Grain and Feed Association, P.O. Box 28328, Washington, DC 20005.

29. *Grain Industry Safety and Health Center—Training Series* (Preventing grain dust explosions, operations maintenance safety, transportation safety, occupational safety and health); Grain Elevator and Processing Society, P.O. Box 15026, Commerce Station, Minneapolis, Minnesota 55415-0026.

30. *Suggestions for Organized Maintenance*; The Mill Mutuals Loss Control Department, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

31. *Safety—The First Step to Success*; The Mill Mutual Loss Control Department, 1 Pierce Place, Suite 1260 West, Itasca, Illinois 60143-1269.

32. *Emergency Plan Notebook*; Schoeff, Robert W. and James L. Balding, Kansas State University, Cooperative Extension Service, Extension Grain Science and Industry, Shellenberger Hall, Manhattan, Kansas 66506.

[52 FR 49625, Dec. 31, 1987, as amended at 53 FR 17696, May 18, 1988; 54 FR 24334, June 7, 1989; 55 FR 25094, June 20, 1990; 61 FR 9242, Mar. 7, 1996; 61 FR 9584, Mar. 8, 1996; 67 FR 67965, Nov. 7, 2002]

Subpart S—Electrical

AUTHORITY: Secs. 4, 6, 8, Occupational Safety and Health Act of 1970 (29 U.S.C. 653, 655, 657; Secretary of Labor's Order No. 8-76 (41 FR 25059) or 1-90 (55 FR 9033), as applicable; 29 CFR part 1911.

SOURCE: 46 FR 4056, Jan. 16, 1981, unless otherwise noted.

GENERAL

§ 1910.301 Introduction.

This subpart addresses electrical safety requirements that are necessary for the practical safeguarding of employees in their workplaces and is divided into four major divisions as follows:

§ 1910.302

29 CFR Ch. XVII (7-1-06 Edition)

(a) *Design safety standards for electrical systems.* These regulations are contained in §§ 1910.302 through 1910.330. Sections 1910.302 through 1910.308 contain design safety standards for electric utilization systems. Included in this category are all electric equipment and installations used to provide electric power and light for employee workplaces. Sections 1910.309 through 1910.330 are reserved for possible future design safety standards for other electrical systems.

(b) *Safety-related work practices.* These regulations will be contained in §§ 1910.331 through 1910.360.

(c) *Safety-related maintenance requirements.* These regulations will be contained in §§ 1910.361 through 1910.380.

(d) *Safety requirements for special equipment.* These regulations will be contained in §§ 1910.381 through 1910.398.

(e) *Definitions.* Definitions applicable to each division are contained in § 1910.399.

[46 FR 4056, Jan. 16, 1982; 46 FR 40185, Aug. 7, 1981]

DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS

§ 1910.302 **Electric utilization systems.**

Sections 1910.302 through 1910.308 contain design safety standards for electric utilization systems.

(a) *Scope*—(1) *Covered.* The provisions of §§ 1910.302 through 1910.308 of this subpart cover electrical installations and utilization equipment installed or used within or on buildings, structures, and other premises including:

- (i) Yards,
- (ii) Carnivals,
- (iii) Parking and other lots,
- (iv) Mobile homes,
- (v) Recreational vehicles,
- (vi) Industrial substations,
- (vii) Conductors that connect the installations to a supply of electricity, and
- (viii) Other outside conductors on the premises.

(2) *Not covered.* The provisions of §§ 1910.302 through 1910.308 of this subpart do not cover:

- (i) Installations in ships, watercraft, railway rolling stock, aircraft, or automotive vehicles other than mobile homes and recreational vehicles.

(ii) Installations underground in mines.

(iii) Installations of railways for generation, transformation, transmission, or distribution of power used exclusively for operation of rolling stock or installations used exclusively for signaling and communication purposes.

(iv) Installations of communication equipment under the exclusive control of communication utilities, located outdoors or in building spaces used exclusively for such installations.

(v) Installations under the exclusive control of electric utilities for the purpose of communication or metering; or for the generation, control, transformation, transmission, and distribution of electric energy located in buildings used exclusively by utilities for such purposes or located outdoors on property owned or leased by the utility or on public highways, streets, roads, etc., or outdoors by established rights on private property.

(b) *Extent of application.* (1) The requirements contained in the sections listed below shall apply to all electrical installations and utilization equipment, regardless of when they were designed or installed.

Sections:

1910.303(b)	Examination, installation, and use of equipment.
1910.303(c)	Splices.
1910.303(d)	Arcing parts.
1910.303(e)	Marking.
1910.303(f)	Identification of disconnecting means.
1910.303(g)(2)	Guarding of live parts.
1910.304(e)(l)(i)	Protection of conductors and equipment.
1910.304(e)(l)(iv)	Location in or on premises.
1910.304(e)(l)(v)	Arcing or suddenly moving parts.
1910.304(f)(l)(ii)	2-Wire DC systems to be grounded:
1910.304(f)(l)(iii) and 1910.304(f)(l)(iv)	AC Systems to be grounded.
1910.304(f)(l)(v)	AC Systems 50 to 1000 volts not required to be grounded.
1910.304(f)(3)	Grounding connections.
1910.304(f)(4)	Grounding path.
1910.304(f)(5)(iv)(a) through 1910.304(f)(5)(iv)(d)	Fixed equipment required to be grounded.
1910.304(f)(5)(v)	Grounding of equipment connected by cord and plug.
1910.304(f)(5)(vi)	Grounding of nonelectrical equipment.
1910.304(f)(6)(i)	Methods of grounding fixed equipment.
1910.305(g)(l)(i) and 1910.305(g)(1)(ii)	Flexible cords and cables, uses.
1910.305(g)(l)(iii)	Flexible cords and cables prohibited.
1910.305(g)(2)(ii)	Flexible cords and cables, splices.