

NFPA 50A

Standard for Gaseous Hydrogen Systems at Consumer Sites

1994 Edition



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Policy Adopted by NFPA Board of Directors on December 3, 1982

The Board of Directors reaffirms that the National Fire Protection Association recognizes that the toxicity of the products of combustion is an important factor in the loss of life from fire. NFPA has dealt with that subject in its technical committee documents for many years.

There is a concern that the growing use of synthetic materials may produce more or additional toxic products of combustion in a fire environment. The Board has, therefore, asked all NFPA technical committees to review the documents for which they are responsible to be sure that the documents respond to this current concern. To assist the committees in meeting this request, the Board has appointed an advisory committee to provide specific guidance to the technical committees on questions relating to assessing the hazards of the products of combustion.

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NFPA 50A
Standard for
Gaseous Hydrogen Systems
at Consumer Sites
1994 Edition

This edition of NFPA 50A, *Standard for Gaseous Hydrogen Systems at Consumer Sites*, was prepared by the Technical Committee on Industrial and Medical Gases and acted on by the National Fire Protection Association, Inc. at its Fall Meeting held November 15-18, 1993, in Phoenix, AZ. It was issued by the Standards Council on January 14, 1994, with an effective date of February 11, 1994, and supersedes all previous editions.

The 1994 edition of this document has been approved by the American National Standards Institute.

Changes other than editorial are indicated by a vertical rule in the margin of the pages on which they appear. These lines are included as an aid to the user in identifying changes from the previous edition.

Origin and Development of NFPA 50A

Development of NFPA 50A was initiated by the Compressed Gas Association, Inc., who submitted a complete text to the NFPA Committee on Gases in 1959. Working responsibility for the project was assigned to the Sectional Committee on Industrial Gases, and the standard was tentatively adopted at the 1961 Annual Meeting. Official adoption, as NFPA 567, followed at the 1963 Annual Meeting as recommended by the Committee on Gases.

In June, 1966, responsibility for NFPA 567 was reassigned to the Committee on Industrial and Medical Gases. With the 1969 edition, which superseded the 1963 edition, the standard was redesignated as NFPA 50A. Subsequent editions were adopted in 1973, 1978, 1984, and 1989.

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This list represents the membership at the time the Committee was balloted on the text of this edition. Since that time, changes in the membership may have occurred.

NOTE: Membership on a Committee shall not in and of itself constitute an endorsement of the Association or any document developed by the Committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on the storage, transfer, and use of industrial gases. Included are the storage and handling of such gases in their gaseous or liquid phases; the installation of associated storage, piping, and distribution equipment; and operating practices. The Committee also has a technical responsibility for contributions in the same areas for medical gases and clean rooms.

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates explanatory material on that paragraph in Appendix A.

Information on referenced publications can be found in Chapter 7 and Appendix B.

Foreword

Hydrogen is a flammable gas. It is colorless, odorless, tasteless, and nontoxic. It is the lightest gas known, having a specific gravity of 0.0695 (air = 1.0). Hydrogen diffuses rapidly in air and through porous materials.

Hydrogen burns in air with a pale blue, almost invisible flame. At atmospheric pressure the ignition temperature of hydrogen-air mixtures has been reported by the U. S. Bureau of Mines to be as low as 932°F (500°C). The flammable limits of hydrogen-air mixtures depend on pressure, temperature, and water vapor content. At atmospheric pressure the flammable range is approximately 4 percent to 74 percent by volume of hydrogen in air.

Hydrogen is nontoxic, but can cause anoxia (asphyxiation) when it displaces the normal 21 percent oxygen in a confined area without adequate ventilation. Because hydrogen is colorless, odorless, and tasteless, its presence cannot be detected by the human senses.

Since the control of the hydrogen system can remain with the supplier, compliance with this standard will minimize the possibility of a consumer fire involving the hydrogen system, as well as the possibility of a hydrogen fire involving the consumer's premises.

Chapter 1 General Information

1-1 Application of Standard.

1-1.1 Scope. This standard covers the requirements for the installation of gaseous hydrogen systems on consumer premises where:

- (a) The hydrogen supply to the consumer premises originates outside the consumer premises, and
- (b) The hydrogen supply is delivered by mobile equipment.

1-1.2 Systems are classified according to the total volume of hydrogen including unconnected reserves, as follows:

- (a) Less than 3,000 SCF (85 m³), except as covered in 1-1.3.
- (b) From 3,000 (85 m³) to 15,000 SCF (255 m³).
- (c) In excess of 15,000 SCF (255 m³).

1-1.3 The application of this standard at places of public assembly is subject to approval of the authority having jurisdiction.

1-1.4 An existing system that is not in strict compliance with the provisions of this standard shall be permitted to be continued in use where such use does not constitute a distinct hazard to life or adjoining property.

1-1.5 This standard shall not apply to single systems using containers having a total hydrogen content of less than 400 SCF (11 m³). Where individual systems, each having a total hydrogen content of less than 400 SCF (11 m³), are located less than 5 ft (1.5 m) from each other, this standard shall apply.

1-1.6 This standard shall not apply to hydrogen manufacturing plants or other establishments operated by the hydrogen supplier or his or her agent for the purpose of storing hydrogen and refilling portable containers, trailers, mobile supply trucks, or tank cars.

1-2 Definitions.

Approved. Acceptable to the authority having jurisdiction.

NOTE: The National Fire Protection Association does not approve, inspect, or certify any installations, procedures, equipment, or materials; nor does it approve or evaluate testing laboratories. In determining the acceptability of installations, procedures, equipment, or materials, the authority having jurisdiction may base acceptance on compliance with NFPA or other appropriate standards. In the absence of such standards, said authority may require evidence of proper installation, procedure, or use. The authority having jurisdiction may also refer to the listings or labeling practices of an organization concerned with product evaluations that is in a position to determine compliance with appropriate standards for the current production of listed items.

Authority Having Jurisdiction. The organization, office, or individual responsible for approving equipment, an installation, or a procedure.

NOTE: The phrase "authority having jurisdiction" is used in NFPA documents in a broad manner, since jurisdictions and approval agencies vary, as do their responsibilities. Where public safety is primary, the authority having jurisdiction may be a federal, state, local, or other regional department or individual such as a fire chief; fire marshal; chief of a fire prevention bureau, labor department, or health department; building official; electrical inspector; or others having statutory authority. For insurance purposes, an insurance inspection department, rating bureau, or other insurance company representative may be the authority having jurisdiction. In many circumstances, the property owner or his or her designated agent assumes the role of the authority having jurisdiction; at government installations, the commanding officer or departmental official may be the authority having jurisdiction.

Combustible Liquid. A liquid having a closed cup flash point at or above 100°F (37.8°C) and subdivided as follows:

- (a) Class II liquids shall include those having a flash point at or above 100°F (37.8°C) and below 140°F (60°C).
- (b) Class IIIA liquids shall include those having a flash point at or above 140°F (60°C) and below 200°F (93.4°C).
- (c) Class IIIB liquids shall include those having a flash point at or above 200°F (93.4°C).

Flammable Liquid (Class I). Any liquid having a closed cup flash point below 100°F (37.8°C) and having a vapor pressure not exceeding 40 psia absolute (276 kPa) at 100°F (37.8°C).

Gallon. A standard U.S. gallon.

Gaseous Hydrogen System. One in which the hydrogen is delivered, stored, and discharged in the gaseous form to consumer's piping. The system includes stationary or movable containers, pressure regulators, pressure relief devices, manifolds, interconnecting piping, and controls. The system terminates at the point where hydrogen at service pressure first enters the consumer's distribution piping.

Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation that maintains periodic inspection of production of labeled equipment or materials and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

Limited-Combustible Material. A type of building construction material as defined in NFPA 220, *Standard on Types of Building Construction*.

Listed. Equipment or materials included in a list published by an organization acceptable to the authority having jurisdiction and concerned with product evaluation that maintains periodic inspection of production of listed equipment or materials and whose listing states either that the equipment or material meets appropriate standards or has been tested and found suitable for use in a specified manner.

NOTE: The means for identifying listed equipment may vary for each organization concerned with product evaluation, some of which do not recognize equipment as listed unless it is also labeled. The authority having jurisdiction should utilize the system employed by the listing organization to identify a listed product.

Noncombustible Material (as defined in NFPA 220, *Standard on Types of Building Construction*). A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors when subjected to fire or heat. Materials reported as noncombustible when tested in accordance with ASTM E-136, *Standard Method of Test for Behavior of Materials in a Vertical Tube Furnace at 750°C*, shall be considered noncombustible materials.

Outdoors. Location outside of any building or structure. Outdoors shall also mean locations under a weather shelter or canopy, provided this area is not enclosed on more than two sides.

SCF. Standard cubic feet of gas at 14.7 psia (101 kPa) and 70°F (21°C).

Separate Building. A detached building used exclusively to house a hydrogen system.

Shall. Indicates a mandatory requirement.

Special Room. A separate enclosed area that is part of or attached to another building and is used exclusively for a hydrogen system.

Chapter 2 Design of Hydrogen Systems

2-1 Containers.

2-1.1 Hydrogen containers shall comply with one of the following:

(a) Designed, constructed, and tested in accordance with appropriate requirements of ASME *Boiler and Pressure Vessel Code*, Section VIII — Pressure Vessels.

(b) Designed, constructed, tested, and maintained in accordance with U. S. Department of Transportation (formerly Interstate Commerce Commission) Specifications and Regulations.

2-1.2 Permanently installed containers shall be provided with substantial supports of noncombustible material on firm foundations of noncombustible material.

2-1.3 Each portable container shall be legibly marked with the name "Hydrogen" in accordance with ANSI/CGA C-4, *Method of Marking Portable Compressed Gas Containers to Identify the Material Contained*. Each manifold hydrogen supply unit shall be legibly marked with the name HYDROGEN or a legend such as "This unit contains hydrogen."

2-2 Pressure Relief Devices.

2-2.1 Hydrogen containers shall be equipped with pressure relief devices as required by the ASME Code or the DOT Specifications and Regulations under which the container is fabricated.

2-2.2 Pressure relief devices shall be arranged to discharge upward and unobstructed to the open air in such a manner as to prevent any impingement of escaping gas upon the container, adjacent structures, or personnel. This requirement shall not apply to DOT Specification containers having an internal volume of 2.0 cu ft (0.057 m³) or less.

2-2.3 Pressure relief devices or vent piping shall be designed or located so that moisture cannot collect and freeze in a manner that would interfere with proper operation of the device.

2-3 Piping, Tubing, and Fittings.

2-3.1 Piping, tubing, and fittings shall be suitable for hydrogen service and for the pressures and temperatures involved. Cast-iron pipe and fittings shall not be used.

2-3.2 Material specifications and thickness requirements for piping and tubing shall conform to ASME B31.3, *Code for Chemical Plant and Petroleum Refinery Piping*.

2-3.3 Joints in piping and tubing shall be made by welding or brazing or by use of flanged, threaded, socket, slip, or compression fittings. Gaskets and thread sealants shall be suitable for hydrogen service. Brazing materials shall have a melting point above 1000°F (538°C).

2-4 Equipment Assembly.

2-4.1 Valves, gauges, regulators, and other accessories shall be recommended for hydrogen service by the manufacturer or the hydrogen supplier.

2-4.2 Installation of hydrogen systems shall be supervised by personnel familiar with proper practices with reference to their construction and use.

2-4.3 Storage containers, piping, valves, regulating equipment, and other accessories shall be accessible and shall be protected against physical damage and against tampering by the general public.

2-4.4 Cabinets or housings containing hydrogen control or operating equipment shall be ventilated to minimize accumulation of hydrogen.

2-4.5 Each mobile hydrogen supply unit used as part of a hydrogen system shall be secured to prevent movement.

2-4.6 Mobile hydrogen supply units shall be electrically bonded to the system before discharging hydrogen.

2-5 Marking. The hydrogen storage location shall be permanently placarded as follows: "HYDROGEN — FLAMMABLE GAS — NO SMOKING — NO OPEN FLAMES," or equivalent.

2-6 Testing. After installation, all piping, tubing, and fittings shall be tested and proved hydrogen gastight at maximum operating pressure.

Chapter 3 Location of Gaseous Hydrogen Systems

3-1 General.

3-1.1 The system shall be located so that it is accessible to delivery equipment and to authorized personnel. Roadways or other means of access for emergency equipment, such as fire department apparatus, shall be provided.

3-1.2 Systems shall be located aboveground, at or above grade.

3-1.3 Systems shall not be located beneath or where exposed by failure of electric power lines, piping containing all classes of flammable or combustible liquids (*see definition*), piping containing other flammable gases, or piping containing oxidizing materials.

3-1.4 Systems within 50 ft (15 m) of aboveground storage of all classes of flammable and combustible liquids shall be located on ground higher than such storage, except where dikes, diversion curbs, grading, or separating solid walls are used to prevent accumulation of these liquids under the system.

Table 3-2.1

Nature of Location	Size of Hydrogen System		
	Less than 3,000 SCF (85 m ³)	3,000 SCF (85 m ³) to 15,000 SCF (425 m ³)	In Excess of 15,000 SCF (425 m ³)
Outdoors	I	I	I
In a separate building	II	II	II
In a special room	III	III	Not Permitted
Inside buildings not in a special room and exposed to other occupancies	IV	Not Permitted	Not Permitted

3-2 Specific Requirements.

3-2.1 The location of a system, as determined by the maximum total contained volume of hydrogen, shall be in the order of preference as indicated by Roman numerals in Table 3-2.1.

3-2.2 The minimum distance in feet from a hydrogen system of indicated capacity located outdoors, in separate buildings, or in special rooms, to any specified outdoor exposure shall be in accordance with Table 3-2.2. The distances in Items 1, 14, and 3 to 10 inclusive in Table 3-2.2 shall not apply where protective structures having a minimum fire-resistance rating of two hr are located between the system and the exposure.

(a) Unloading connections on delivery equipment shall not be positioned closer to any of the exposures cited in Table 3-2.2 than the distances given for the storage system.

3-2.3 Hydrogen systems of less than 3,000 SCF (85 m³), where located inside buildings and exposed to other occupancies, shall be situated in the building so that the system will be as follows:

(a) In an adequately ventilated area as in 4-2.2.

(b) 20 ft (6 m) from all classes of flammable and combustible liquids, oxidizing gases, and readily combustible materials, such as excelsior and paper.

(c) 25 ft (7.6 m) from open flames, ordinary electrical equipment, or other sources of ignition.

(d) 50 ft (15 m) from intakes of ventilation or air conditioning equipment and air compressors.

(e) 50 ft (15 m) from other flammable gas storage.

(f) Protected against damage or injury due to falling objects or working activity in the area.

(g) More than one system of 3,000 SCF (85 m³) or less shall be permitted to be installed in the same room, provided the systems are separated by at least 50 ft (15 m). Each such system shall meet all of the requirements of this section.

Table 3-2.2 Separation of Outdoor Gaseous Hydrogen Systems and Exposures

Type of Outdoor Exposure		Size of Hydrogen System		
		Less than 3,000 SCF (85 m ³)	3,000 SCF (85 m ³) to 15,000 SCF (425 m ³)	In Excess of 15,000 SCF (425 m ³)
1. Building or Structure	a) Wall(s) adjacent to system constructed of noncombustible or limited-combustible materials.			
	1) Sprinklered building or structure, or contents non-combustible.	0 ¹	5 ¹	5 ¹
	2) Unsprinklered building or structure with combustible contents.	0 ³	10	25 ⁴
	Adjacent wall(s) with fire-resistance rating less than 2 hours. ²			
	Adjacent wall(s) with fire-resistance rating of 2 hours or greater. ²	0	5	5
	b) Wall(s) adjacent to system constructed of other than noncombustible or limited combustible materials.	10	25	50 ⁴
2. Wall Openings	Not above any part of a system	10 ft (3 m)	10 ft (3 m)	10 ft (3 m)
	Above any part of a system 25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
3. All classes of flammable and combustible liquids above ground*	0-1,000 gallons	10 ft (3 m)	25 ft (7.6 m)	25 ft (7.6 m)
	In excess of 1,000 gallons	25 ft (7.6 m)	50 ft (15 m)	50 ft (15 m)
4. All classes of flammable and combustible liquids below ground — 0-1,000 gallons*	Tank	10 ft (3 m)	10 ft (3 m)	10 ft (3 m)
	Vent or fill opening of tank	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
5. All classes of flammable and combustible liquids below ground — in excess of 1,000 gallons*	Tank	20 ft (6 m)	20 ft (6 m)	20 ft (6 m)
	Vent or fill opening of tank	25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
6. Flammable gas storage (other than hydrogen), either high pressure or low pressure	0-15,000 SCF (255 m ³) capacity	10 ft (3 m)	25 ft (7.6 m)	25 ft (7.6 m)
	In excess of 15,000 SCF (255 m ³) capacity	25 ft (7.6 m)	50 ft (15 m)	50 ft (15 m)
7. Oxygen storage	20,000 SCF (566 m ³) or less	Refer to NFPA 51, <i>Gas Systems for Welding and Cutting</i>		
	More than 20,000 SC (566 m ³)	Refer to NFPA 50, <i>Bulk Oxygen Systems at Consumer Sites</i>		
8. Fast burning solids such as ordinary lumber, excelsior, or paper		50 ft (15 m)	50 ft (15 m)	50 ft (15 m)
9. Slow burning solids such as heavy timber or coal		25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
10. Open flames and welding		25 ft (7.6 m)	25 ft (7.6 m)	25 ft (7.6 m)
11. Air compressor intakes or inlets to ventilating or air-conditioning equipment		50 ft (15 m)	50 ft (15 m)	50 ft (15 m)
12. Place of public assembly		25 ft (7.6 m)	50 ft (15 m)	50 ft (15 m)
13. Public sidewalks and parked vehicles		15 ft (4.6 m)	15 ft (4.6 m)	15 ft (4.6 m)
14. Line of adjoining property that may be built upon		5 ft (1.5 m)	5 ft (1.5 m)	5 ft (1.5 m)

Notes to Item 1 of Table 3-2.2

1. Portions of wall less than 10 ft (3 m) (measured horizontally) from any part of a system shall have a fire-resistance rating of at least ½ hour.

2. Exclusive of windows and doors (see Item 2 of Table 3-2.2.)

3. Portions of walls less than 10 ft (3 m) (measured horizontally) from any part of a system shall have a fire-resistance rating of at least 1 hour.

4. But not less than one-half the height of adjacent wall of building or structure.

*Distances may be reduced to 15 ft (4.5 m) for Class IIIB combustible liquids.

Chapter 4 Design Considerations at Specific Locations

4-1 Outdoor Locations.

4-1.1 Where protective walls or roofs are provided, they shall be constructed of noncombustible or limited-combustible materials.

4-1.2 Electrical equipment within 15 ft (4.6 m) shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*®, for Class I, Division 2 locations.

4-2 Separate Buildings.

4-2.1 Separate buildings shall be constructed of noncombustible or limited-combustible materials. Windows and doors shall be located so as to be readily accessible in case of emergency.

Exception: Window glazing shall be permitted to be plastic.

4-2.2 Ventilation to the outdoors shall be provided. Inlet openings shall be located near the floor in exterior walls only. Outlet openings shall be located at the high point of the room in exterior walls or roof. Inlet and outlet openings shall each have a minimum total area of one (1) sq ft per 1,000 cu ft (1 sq m per 300 cu m) of room volume. Discharge from outlet openings shall be directed or conducted to the atmosphere.

4-2.3 Exterior walls of separate buildings shall be constructed of lightweight materials or panels designed to relieve at a maximum internal pressure of 25 lb per sq ft (13.3 kPa per sq m.)

NOTE: For guidance in these construction techniques, see NFPA 68, *Guide for Venting of Deflagrations*.

4-2.4 There shall be no sources of ignition from open flames, electrical equipment, or heating equipment.

4-2.5 Electrical equipment shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*, for Class I, Division 2 locations.

4-2.6 Heating, if provided, shall be by steam, hot water, or other indirect means except that electrical heating may be used if in compliance with 4-2.5

4-3 Special Rooms.

4-3.1 Floor, walls, and ceiling shall be constructed of noncombustible or limited-combustible materials. Interior walls or partitions shall have a fire-resistance rating of at least 2 hr, be continuous from floor to ceiling, and be securely anchored. At least one wall shall be an exterior wall. Openings to other parts of the building shall not be permitted. Windows and doors shall be in exterior walls and shall be located so as to be readily accessible in case of emergency.

Exception: Window glazing shall be permitted to be plastic.

4-3.2 Ventilation shall be as provided in 4-2.2.

4-3.3 Explosion venting shall be as provided in 4-2.3.

4-3.4 There shall be no sources of ignition from open flames, electrical equipment, or heating equipment.

4-3.5 Electrical equipment shall be in accordance with Article 501 of NFPA 70, *National Electrical Code*, for Class I, Division 2 locations.

4-3.6 Heating, if provided, shall be by steam, hot water, or indirect means except that electrical heating may be used if in compliance with 4-3.5.

Chapter 5 Operation and Maintenance

5-1 Operating Instructions. For installations that require any operation of equipment by the user, legible instructions shall be maintained at operating locations.

5-2 Maintenance. Each hydrogen system installed on consumer premises shall be inspected annually and maintained by a qualified representative of the equipment owner.

5-3 Clearance to Combustibles. The area within 15 ft (4.6 m) of any hydrogen container shall be kept free of dry vegetation and combustible material.

Chapter 6 Fire Protection

6-1* Caution. Personnel shall be cautioned that hydrogen flames are practically invisible.

Chapter 7 Referenced Publications

7-1 The following documents or portions thereof are referenced within this standard and shall be considered part of the requirements of this document. The edition indicated for each reference is the current edition as of the date of the NFPA issuance of this document.

7-1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 50, *Standard for Bulk Oxygen Systems at Consumer Sites*, 1990 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 1992 edition.

NFPA 70, *National Electrical Code*, 1993 edition.

NFPA 220, *Standard on Types of Building Construction*, 1992 edition.

7-1.2 Other Publications.

7-1.2.1 ASME Publications. American Society for Mechanical Engineers, 345 East 47th St., New York, NY 10017.

ASME/ANSI B31.3-1987, *Code for Chemical Plant and Petroleum Refinery Piping*.

ASME Boiler and Pressure Vessel Code-1986, Section VIII, Rules for the Construction of Pressure Vessels.

7-1.2.2 ASTM Publication. American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103.

ASTM E-136-1982, *Standard Method of Test for Behavior of Materials in a Vertical Tube Furnace at 750°C.*

7-1.2.3 CGA Publication. Compressed Gas Association, 1725 Jefferson Davis Highway, Arlington, VA 22202.

ANSI/CGA C-4-1990, *Method of Marking Portable Compressed Gas Containers to Identify the Material Contained.*

Appendix A Explanatory Material

This Appendix is not a part of the requirements of this NFPA document, but is included for informational purposes only.

A-6-1 Hydrogen fires are not normally extinguished until the supply of hydrogen has been shut off because of the danger of reignition or explosion. In the event of fire, large quantities of water have been sprayed on adjacent equipment to cool the equipment and prevent involvement in the fire. Combination fog and solid stream nozzles have been preferred to permit widest adaptability in fire control. Small hydrogen fires have been extinguished by dry chem-

ical extinguishers or with carbon dioxide, nitrogen, and steam. Reignition may occur if a metal surface adjacent to the flame is not cooled with water or other means.

The fire protection provided should be determined by an analysis of local conditions of hazard within the plant, exposure to other properties, water supplies, the probable effectiveness of plant fire brigades, and the time of response and probable effectiveness of fire departments.

Appendix B Referenced Publications

B-1 The following documents or portions thereof are referenced within this standard for informational purposes only and thus are not considered part of the requirements of this document. The edition indicated for the reference is the current edition as of the date of the NFPA issuance of this document.

B-1.1 NFPA Publication. National Fire Protection Association, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101.

NFPA 68, *Guide for Venting of Deflagrations*, 1994 edition.

Index

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The NFPA Codes and Standards Development Process

Since 1896, one of the primary purposes of the NFPA has been to develop and update the standards covering all areas of fire safety.

Calls for Proposals

The code adoption process takes place twice each year and begins with a call for proposals from the public to amend existing codes and standards or to develop the content of new fire safety documents.

Report on Proposals

Upon receipt of public proposals, the technical committee members meet to review, consider, and act on the proposals. The public proposals – together with the committee action on each proposal and committee-generated proposals – are published in the NFPA's Report on Proposals (ROP). The ROP is then subject to public review and comment.

Report on Comments

These public comments are considered and acted upon by the appropriate technical committees. All public comments – together with the committee action on each comment – are published as the Committee's supplementary report in the NFPA's Report on Comments (ROC).

The committee's report and supplementary report are then presented for adoption and open debate at either of NFPA's semi-annual meetings held throughout the United States and Canada.

Association Action

The Association meeting may, subject to review and issuance by the NFPA Standards Council, (a) adopt a report as published, (b) adopt a report as amended, contingent upon subsequent approval by the committee, (c) return a report to committee for further study, and (d) return a portion of a report to committee.

Standards Council Action

The Standards Council will make a judgement on whether or not to issue an NFPA document based upon the entire record before the Council, including the vote taken at the Association meeting on the technical committee's report.

Voting Procedures

Voting at an NFPA Annual or Fall Meeting is restricted to members of record for 180 days prior to the opening of the first general session of the meeting, except that individuals who join the Association at an Annual or Fall Meeting are entitled to vote at the next Fall or Annual Meeting.

"Members" are defined by Article 3.2 of the Bylaws as individuals, firms, corporations, trade or professional associations, institutes, fire departments, fire brigades, and other public or private agencies desiring to advance the purposes of the Association. Each member shall have one vote in the affairs of the Association. Under Article 4.5 of the Bylaws, the vote of such a member shall be cast by that member individually or by an employee designated in writing by the member of record who has registered for the meeting. Such a designated person shall not be eligible to represent more than one voting privilege on each issue, nor cast more than one vote on each issue.

Any member who wishes to designate an employee to cast that member's vote at an Association meeting in place of that member must provide that employee with written authorization to represent the member at the meeting. The authorization must be on company letterhead signed by the member of record, with the membership number indicated, and the authorization must be recorded with the President of NFPA or his designee before the start of the opening general session of the Meeting. That employee, irrespective of his or her own personal membership status, shall be privileged to cast only one vote on each issue before the Association.

Sequence of Events Leading to Publication of an NFPA Committee Document

Call for proposals to amend existing document or for recommendations on new document.



Committee meets to act on proposals, to develop its own proposals, and to prepare its report.



Committee votes on proposals by letter ballot. If two-thirds approve, report goes forward.
Lacking two-thirds approval, report returns to committee.



Report is published for public review and comment. (Report on Proposals - ROP)



Committee meets to act on each public comment received.



Committee votes on comments by letter ballot. If two-thirds approve, supplementary report goes forward. Lacking two-thirds approval, supplementary report returns to committee.



Supplementary report is published for public review. (Report on Comments - ROC).



NFPA membership meets (Annual or Fall Meeting) and acts on committee report (ROP and ROC).



Committee votes on any amendments to report approved at NFPA Annual or Fall Meeting.



Complaints to Standards Council on Association action must be filed
within 20 days of the NFPA Annual or Fall Meeting.



Standards Council decides, based on all evidence, whether or not to issue standard
or to take other action, including hearing any complaints.



Appeals to Board of Directors on Standards Council action must be filed
within 20 days of Council action.

FORM FOR PROPOSALS ON NFPA TECHNICAL COMMITTEE DOCUMENTS

Mail to: Secretary, Standards Council

National Fire Protection Association, 1 Batterymarch Park, Quincy, Massachusetts 02269-9101

Fax No. 617-770-3500

Note: All proposals must be received by 5:00 p.m. EST/EDST on the published proposal-closing date.

If you need further information on the standards-making process, please contact the
Standards Administration Department at 617-984-7249.

Date 9/18/93 Name John B. Smith Tel. No. 617-555-1212

Company

Street Address 9 Seattle St., Seattle, WA 02255

Please Indicate Organization Represented (if any) Fire Marshals Assn. of North America

1. a) NFPA Document Title National Fire Alarm Code NFPA No. & Year NFPA 72, 1993 ed.

b) Section/Paragraph 1-5.8.1 (Exception No.1)

2. Proposal recommends: (Check one) ☐ new text
☐ revised text
☒ deleted text

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Date Rec'd

3. Proposal (include proposed new or revised wording, or identification of wording to be deleted):

Delete exception.

4. Statement of Problem and Substantiation for Proposal: (Note: State the problem that will be resolved by your recommendation; give the specific reason for your proposal including copies of tests, research papers, fire experience, etc. If more than 200 words, it may be abstracted for publication.)

A properly installed and maintained system should be free of ground faults. The occurrence of one or more ground faults should be required to cause a "trouble" signal because it indicates a condition that could contribute to future malfunction of the system. Ground fault protection has been widely available on these systems for years and its cost is negligible. Requiring it on all systems will promote better installations, maintenance and reliability.

5. ☒ This Proposal is original material. (Note: Original material is considered to be the submitter's own idea based on or as a result of his/her own experience, thought, or research and, to the best of his/her knowledge, is not copied from another source.)

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