

NFPA 75

Standard for the Protection of Information Technology Equipment

2003 Edition



NFPA, 1 Batterymarch Park, PO Box 9101, Quincy, MA 02269-9101
An International Codes and Standards Organization

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NFPA 75
Standard for the
Protection of Information Technology Equipment
2003 Edition

This edition of NFPA 75, *Standard for the Protection of Information Technology Equipment*, was prepared by the Technical Committee on Electronic Computer Systems and acted on by NFPA at its November Association Technical Meeting held November 16–20, 2002, in Atlanta, GA. It was issued by the Standards Council on January 17, 2003, with an effective date of February 6, 2003, and supersedes all previous editions.

This edition of NFPA 75 was approved as an American National Standard on January 17, 2003.

Origin and Development of NFPA 75

The Committee on Electronic Computer Systems was formed by the action of the NFPA Board of Directors in January 1960, following a request for standardization of fire protection recommendations by the computer industry.

The committee first submitted the *Standard for the Protection of Electronic Computer Systems* to the 1961 NFPA Annual Meeting and it was tentatively adopted. At the 1962 Annual Meeting, it was officially adopted as an NFPA standard. Revisions were adopted in 1963, 1964, 1968, 1972, 1976, 1981, 1987, and 1989. The document was completely rewritten for the 1992 edition. The document was revised in 1995 and again in 1999.

This revision incorporates the NFPA *Manual of Style* recommendations.

In previous editions of this standard, the terms “electronic computer/data processing equipment” and “electronic computer system” were used where the present terms “information technology equipment” and “information technology equipment system” are used, respectively. Similarly, the terms “computer room” and “computer area” have been replaced by “information technology equipment room” and “information technology equipment area,” respectively. While the title and some terminology in this standard have changed to more closely align this standard’s terminology with terminology presently being used in other standards, such as NFPA 70, *National Electrical Code*®, and UL 60950, *Standard for Safety of Information Technology Equipment*, the scope of this standard and any definitions associated with these like terms remain the same.

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Committee Scope: This Committee shall have primary responsibility for documents on the protection of electronic computer equipment, components and associated records.

This list represents the membership at the time the Committee was balloted on the final text of this edition. Since that time, changes in the membership may have occurred. A key to classifications is found at the back of the document.

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.

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**Standard for the
Protection of Information
Technology Equipment**

2003 Edition

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

Changes other than editorial are indicated by a vertical rule beside the paragraph, table, or figure in which the change occurred. These rules are included as an aid to the user in identifying changes from the previous edition. Where one or more complete paragraphs have been deleted, the deletion is indicated by a bullet (•) between the paragraphs that remain.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, Annex E lists the complete title and edition of the source documents for both mandatory and nonmandatory extracts. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

Information on referenced publications can be found in Chapter 2 and Annex E.

Chapter 1 Administration

1.1 Scope. This standard covers the requirements for the protection of information technology equipment and information technology equipment areas.

1.2* Purpose. The purpose of this standard is to set forth the minimum requirements for the protection of information technology equipment and information technology equipment areas from damage by fire or its associated effects — namely, smoke, corrosion, heat, and water.

1.3 Application. The application of this standard is based on the risk considerations outlined in Chapter 4. The mere presence of the information technology equipment shall not constitute the need to invoke the requirements of this standard.

1.4 Retroactivity.

1.4.1 The provisions of this standard reflect a consensus of what is necessary to provide an acceptable degree of protection from the hazards addressed in this standard at the time the standard was issued.

1.4.2 Unless otherwise specified, the provisions of this standard shall not apply to facilities, equipment, structures, or installations that existed or were approved for construction or installation prior to the effective date of the standard. Where specified, the provisions of this standard shall be retroactive.

1.5 Equivalency. Nothing in this standard is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, dura-

bility, and safety over those prescribed by this standard. Technical documentation shall be submitted to the authority having jurisdiction to demonstrate equivalency. The system, method, or device shall be approved for the intended purpose by the authority having jurisdiction.

1.6 Special Note on Chapter 10. Chapter 10 contains text extracted from NFPA 70, *National Electrical Code*®, Article 645. The text is identified by a citation in brackets following the paragraph. Only editorial changes were made to make the text consistent with this standard. Requests for interpretations or revisions of the extracted text will be referred to Panel No. 12 of the National Electrical Code Committee.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this standard and shall be considered part of the requirements of this document.

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

NFPA 10, *Standard for Portable Fire Extinguishers*, 2002 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 2000 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 1997 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2002 edition.

NFPA 14, *Standard for the Installation of Standpipe, Private Hydrant, and Hose Systems*, 2003 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2002 edition.

NFPA 70, *National Electrical Code*®, 2002 edition.

NFPA 72®, *National Fire Alarm Code*®, 2002 edition.

NFPA 101®, *Life Safety Code*®, 2003 edition.

NFPA 220, *Standard on Types of Building Construction*, 1999 edition.

NFPA 232, *Standard for the Protection of Records*, 2000 edition.

NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*, 2000 edition.

NFPA 2001, *Standard on Clean Agent Fire Extinguishing Systems*, 2000 edition.

2.3 Other Publications.

2.3.1 ASTM Publications. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.

ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*, 1999.

ASTM E 814, *Standard Method of Fire Tests of Through-Penetration Fire Stops*, 1997.

2.3.2 UL Publications. Underwriters Laboratories Inc., 333 Pfingsten Road, Northbrook, IL 60062.

UL 72, *Standard for Tests for Fire Resistance of Record Protection Equipment*, 2001.

UL 478, *Standard for Electronic Data-Processing Units and Systems*, 1980.

UL 900, *Standard for Test Performance of Air Filter Units*, 1994.

UL 1950, *Standard for Safety of Information Technology Equipment*, 1995.

UL 60950, *Standard for Safety of Information Technology Equipment*, 2000.

Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this standard. Where terms are not included, common usage of the terms shall apply.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). The organization, office, or individual responsible for approving equipment, materials, an installation, or a procedure.

3.2.3 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.

3.2.4* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.5 Shall. Indicates a mandatory requirement.

3.2.6 Should. Indicates a recommendation or that which is advised but not required.

3.3 General Definitions.

3.3.1 Air Space. The space below a raised floor or above a suspended ceiling used to circulate environmental air within the information technology equipment room/information technology equipment area.

3.3.2 Automated Information Storage System (AISS). An enclosed storage and retrieval system that moves recorded media between storage and information technology equipment systems.

3.3.3 Business Interruption. The effect on business operations from the time that equipment was initially lost or damaged until it has been restored to the former level of operation.

3.3.4 Console. A unit containing main operative controls of the system.

3.3.5 Detector.

3.3.5.1 Heat Detector. A fire detector that detects either abnormally high temperatures or rate of temperature rise, or both.

3.3.5.2 Smoke Detector. A device that senses visible or invisible particles of combustion.

3.3.6 Electronically Interconnected. Units that must be connected by a signal channel to complete a system or perform an operation.

3.3.7 Fire-Resistant-Rated Construction. Construction in which the structural members, including walls, partitions, columns, floors, and roof construction, have fire resistance ratings of time duration not less than that specified in this standard.

3.3.8 Information Technology Equipment Area. An area of a building where the information technology equipment room is located, including support rooms served by the same special air-conditioning/air-handling equipment as the information technology equipment room.

3.3.9 Information Technology Equipment Room. A room within the information technology equipment area that contains the information technology equipment.

3.3.10 Information Technology Equipment System. Any electronic digital or analog computer, along with all peripheral, support, memory, programming, or other directly associated equipment, records, storage, and activities.

3.3.11 Interconnecting Cables. Signal and power cables for operation and control of system.

3.3.12 Noncombustible. A material that, in the form in which it is used and under the conditions anticipated, will not aid combustion or add appreciable heat to an ambient fire. Materials, when tested in accordance with ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C*, and conforming to the criteria contained in Section 8 of the referenced standard, are considered as noncombustible.

3.3.13* Raised Floor. A platform with removable panels where equipment is installed, with the intervening space between it and the main building floor used to house the interconnecting cables and at times is used as a means for supplying conditioned air to the information technology equipment and the room.

3.3.14 Records.

3.3.14.1 Important Records. Records that could be reproduced only at considerable expense and labor or only after considerable delay.

3.3.14.2 Master Record. An information record on a medium that can be referred to whenever there is a need to rebuild a data base.

3.3.14.3 Vital Records. Records that are irreplaceable, such as records of which a reproduction does not have the same value as an original; records needed to sustain the business promptly or to recover monies used to replace buildings' equipment, raw materials, finished goods, and work in progress; and records needed to avoid delay in restoration of production, sales, and service.

3.3.15 Separate Fire Division. A portion of a building cut off from all other portions of the building by fire walls, fire doors, and other approved means adequate to prevent any fire that can occur in one fire division from extending to another fire division.

3.3.16 Water Sensor. A device or means that will detect the presence of water.