NFPA® 88A

Standard for Parking Structures

2011 Edition

NFPA, 1 Batterymarch Park, Quincy, MA 02169-7471
An International Codes and Standards Organization

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NFPA® 88A

Standard for

Parking Structures

2011 Edition

This edition of NFPA 88A, *Standard for Parking Structures,* was prepared by the Technical Committee on Garages and Parking Structures. It was issued by the Standards Council on June 1, 2010, with an effective date of June 21, 2010, and supersedes all previous editions.

This edition of NFPA 88A was approved as an American National Standard on June 21, 2010.

Origin and Development of NFPA 88A

Work on fire protection safeguards for garages was initiated by NFPA in 1927 with the appointment of a committee. After extensive deliberations and the publication of successive drafts, a standard was adopted in 1932. Subsequently, the committee was discharged when it appeared that no further activity was needed in this field. In 1952, the present committee was created. This committee prepared a number of redrafts of the 1932 text, and in 1957 a revised NFPA 88, *Standard for Garages*, was adopted. Revisions were made in 1962, 1968, 1979, 1985, 1995, and 1998.

In order to treat separately the occupancies of repair garages and parking structures, NFPA 88A and NFPA 88B, *Standard for Repair Garages*, were published separately in 1973.

In 1991, partial revisions were made to this standard, and the 1995 edition contained editorial changes. The 1998 edition contained definitions clarifying the various configurations of parking structures. It also contained changes increasing the area of office space related to the parking structure and further clarified the requirements for vertical opening protection and automatic sprinkler installation. That edition also included new requirements for natural gas powered vehicles.

The 2002 edition contained primarily editorial revisions for compliance with the *Manual of Style for NFPA Technical Committee Documents*, and listed metric units of measurement as the primary units.

In the 2007 edition, the Committee rewrote the definition of *open parking structure* to comply with the *Manual of Style for NFPA Technical Committee Documents* and moved the requirements to a new 4.7.1. The NFPA 220 definition of *Noncombustible Material* was adopted in place of the one used in the previous edition.

Definitions were added to recognize the emergence of *mechanical parking structures* where cars are moved to parking places by lifts or other devices instead of being driven. No specific requirements were added.

Lastly, the committee clarified the use of vehicle ramps in 4.4.3 and 4.4.4.

In the 2011 edition, the committee has made a number of significant changes, including the following:

(1) Added new definitions
(2) Defined and addressed “automated mechanical-type parking structure” in a new chapter
(3) Deleted certain sections that were not enforceable
(4) Reorganized the entire document using a chapter structure that emulates other construction documents including, but not limited to, NFPA *101* and *NFPA 5000*

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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 construction, control of fire hazards, ventilation, and fire protection in parking structures.

Contents

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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, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex B. Extracted text may be edited for consistency and style and may include the revision of internal paragraph references and other references as appropriate. 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 B.

Chapter 1 Administration

1.1 Scope. This standard shall cover the construction and protection of, as well as the control of hazards in, open and enclosed parking structures. This standard shall not apply to one- and two-family dwellings.

1.2 Purpose. The purpose of this standard is to provide minimum fire protection standards for parking structures.

1.3 Retroactivity. 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.

1.3.1 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.

1.3.2 In those cases where the authority having jurisdiction determines that the existing situation presents an unacceptable degree of risk, the authority having jurisdiction shall be permitted to apply retroactively any portions of this standard deemed appropriate.

1.3.3 The retroactive requirements of this standard shall be permitted to be modified if their application clearly would be impractical in the judgment of the authority having jurisdiction and only where it is clearly evident that a reasonable degree of safety is provided.

1.4 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, durability, and safety over those prescribed by this standard, provided technical documentation is submitted to the authority having jurisdiction to demonstrate equivalency and the system, method, or device is approved for the intended purpose.

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, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems,* 2010 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems,* 2010 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems,* 2011 edition.

NFPA 30, *Flammable and Combustible Liquids Code,* 2008 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages,* 2008 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment,* 2006 edition.

NFPA 52, *Vehicular Gaseous Fuel Systems Code,* 2010 edition.

NFPA 54, *National Fuel Gas Code,* 2009 edition.

NFPA 58, *Liquefied Petroleum Gas Code,* 2011 edition.

NFPA 70®, National Electrical Code®, 2011 edition.

NFPA 72®, National Fire Alarm and Signaling Code, 2010 edition.

NFPA 80, *Standard for Fire Doors and Other Opening Protectives,* 2010 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems,* 2009 edition.

NFPA *101®, Life Safety Code®,* 2009 edition.

NFPA 211, *Standard for Chimneys, Fireplaces, Vents, and Solid Fuel–Burning Appliances,* 2010 edition.

NFPA 220, *Standard on Types of Building Construction,* 2009 edition.

NFPA 5000®, Building Construction and Safety Code®, 2009 edition.

2.3 Other Publications.

2.3.1 ASTM Publications. ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.

ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750°C,* 2004.

2.3.2 IAPMO Publications. International Association of Plumbing and Mechanical Officials, 5001 E. Philadelphia Street, Ontario, CA 91761.

Uniform Mechanical Code, 2003.

2.3.3 Other Publications.

Merriam-Webster's Collegiate Dictionary, 11th edition, Merriam-Webster, Inc., Springfield, MA, 2003.

2.4 References for Extracts in Mandatory Sections.

NFPA *101®*, *Life Safety Code®,* 2009 edition.

NFPA 220, *Standard on Types of Building Construction,* 2009 edition.

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 defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or 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.

3.3 General Definitions.

3.3.1 Noncombustible Material. 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 that are reported as passing ASTM E 136 are considered noncombustible materials. [**220,** 2009]

3.3.2* Parking Structure. A building, structure, or portion thereof used for the parking, storage, or both, of motor vehicles.

3.3.2.1 ***Parking Structure, Assisted Mechanical Type.*** A parking structure that uses lifts or other mechanical devices to transport vehicles to the floors of a parking structure, where the vehicles are then parked by a person.

3.3.2.2 ***Parking Structure, Automated Type.*** A parking structure that uses computer-controlled machines to store and retrieve vehicles, without drivers, in multi-level storage racks with no floors.

3.3.2.3 ***Parking Structure, Enclosed.*** Any parking structure that is not an open parking structure.

3.3.2.4 ***Parking Structure, Open.*** A parking structure that meets the requirements of Section 5.5.

3.3.2.5 ***Parking Structure, Ramp Type.*** A parking structure that utilizes sloped floors for vertical vehicle circulation.

Chapter 4 Means of Egress

4.1 Means of Egress.

4.1.1 Means of egress shall comply with NFPA *101* or *NFPA 5000* as modified by 4.1.2.

4.1.2 The ramp requirement of NFPA *101*, 7.2.5, and *NFPA 5000*, 11.2.5, shall not apply to those parts of sloped floors utilized for both parking and vehicle circulation.

4.1.3 In a ramp-type open parking structure with open vehicle ramps not subject to closure, the ramp shall be permitted to serve in lieu of the second means of egress from floors above the level of exit discharge, provided that the ramp discharges directly outside at the street level. [***101:***42.8.2.2.6.1(2)]

4.1.4 For parking structures extending only one floor level below the level of exit discharge, a vehicle ramp leading directly to the outside shall be permitted to serve in lieu of the second means of egress, provided that no door or shutter is installed therein. [***101:***42.8.2.2.6.1(3)]

4.1.5* Open stairs shall be permitted in open parking structures.

Chapter 5 Construction

5.1 General Requirements.

5.1.1* Parking structures shall be built using one of the types of construction defined in NFPA 220, except as otherwise amended in this standard.

5.1.2 Open parking structures shall be of Type I or Type II construction as defined in NFPA 220.

5.1.3 Heights and floor areas of open parking structures of Type I, Type II (222), or Type II (111) construction shall be permitted to be unlimited.

5.1.4 Open parking structures of Type II (000) construction shall be permitted to be of unlimited area where both of the following conditions are met:

(1) The height does not exceed 25 m (75 ft).
(2) The horizontal distance from any point on any parking level to an exterior wall opening on a street, an alley, a courtyard, or other similar permanent open space does not exceed 60 m (200 ft).

5.2 Compartmentation.

5.2.1 Those parts of parking structures located within, immediately below, attached to, or less than 3000 mm (120 in.) from a building used for any other purpose shall be separated by walls, partitions, floors, or floor–ceiling assemblies having fire resistance ratings of not less than 2 hours, unless otherwise permitted by 5.2.2.

5.2.2 No fire-rated separation shall be required when parts of a parking structure and a building used for any other purpose are separated by 3000 mm (120 in.) or more, and are attached only via open pedestrian balconies or bridges or open vehicle bridges.

5.2.3* Those portions of an open parking structure located within or immediately below a building used for another purpose shall have the principal supporting members and bearing walls in all levels of the parking structure protected to provide a fire resistance rating equivalent to that required for the other occupancy.

5.2.4 Offices or other similar spaces that are related to the operation of the parking structure and are less than 300 m^2 (3000 ft^2) in area, other than cashier or attendant booths, shall be separated from parking areas by walls or partitions that resist the passage of smoke.

5.3 Floors.

5.3.1 Floor surfaces shall be of noncombustible material.

5.3.1.1 Where combustible construction is permitted, floor surfaces shall be noncombustible and liquidtight.

5.3.1.2* Asphalt shall be permitted on grade.

5.3.2 Floors shall be graded and equipped with drains.

5.3.3 Floors in areas of parking structures where motor fuels are dispensed shall be designed in accordance with NFPA 30A.

5.4 Openings in Fire Resistance–Rated Assemblies.

5.4.1 Doorways and other openings in fire walls and fire partitions shall be protected with approved fire doors installed in accordance with NFPA 80.

5.4.2 Where ducts pass through fire walls or fire partitions, the openings shall be protected in accordance with NFPA 90A.

5.4.3 Unless otherwise provided in 5.4.5, 5.4.6, or 5.4.7, vertical openings through floors in enclosed parking structures four stories or more in height shall be enclosed with walls or partitions having a fire resistance rating of not less than 2 hours.

5.4.4 Unless otherwise provided in 5.4.5, 5.4.6, or 5.4.7, vertical openings through floors in enclosed parking structures less than four stories in height shall be enclosed with walls or partitions having a fire resistance rating of not less than 1 hour.

5.4.5 Ramps in enclosed parking structures shall not be required to be enclosed in accordance with 5.4.3 or 5.4.4 where the parking structure is protected throughout by an approved, automatic sprinkler system.

5.4.6 Ramps in enclosed parking structures shall not be required to be enclosed in accordance with 5.4.3 or 5.4.4 where the parking structure is protected throughout by an approved, supervised, automatic fire detection system and a mechanical ventilation system in accordance with 6.3.1.

5.4.7 Openings in the floor assembly between an enclosed parking structure and an open parking structure, except exit openings, shall not be required to be enclosed where the enclosed parking structure is protected in accordance with 5.4.5 or 5.4.6.

5.4.8 Unprotected vertical openings through floors in open parking structures shall be permitted.

5.5 Opening Requirements for Open Parking Structures.

5.5.1 Each parking level shall have wall openings open to the atmosphere, for an area of not less than 0.4 m^2 for each linear meter (1.4 ft^2 for each linear foot) of its exterior perimeter.

5.5.2 Such openings shall be distributed over 40 percent of the building perimeter or uniformly over two opposing sides.

5.5.3 Interior wall lines and column lines shall be at least 20 percent open, with openings distributed to provide ventilation.

Chapter 6 Building Service and Fire Protection

6.1 Lighting and Power.

6.1.1 Electric wiring for light, power, heat, and signal or control circuits and for electrically operated tools, portable appliances, and devices shall be in accordance with the provisions of *NFPA 70*.

6.1.2 Areas where flammable liquids are stored, handled, or dispensed shall be delineated and classified for the installation of electrical equipment in accordance with NFPA 30A.

6.2 Heating.

6.2.1 Heating equipment shall conform to NFPA 90A, NFPA 31, NFPA 54, NFPA 211, and *Uniform Mechanical Code*, as applicable.

6.2.2 Unless otherwise permitted by 6.2.3, all flames associated with heating equipment shall be located a minimum of 500 mm (18 in.) below the floor–ceiling assembly or 500 mm (18 in.) above the floor.

6.2.3 Heating equipment located so as to be protected by a partition not less than 500 mm (18 in.) above the floor shall not be required to meet the requirement of 6.2.2.

6.2.4 The use of improvised furnaces, construction heaters, and space heaters shall be prohibited.

6.3 Ventilation.

6.3.1* All enclosed parking structures shall be ventilated by a mechanical system capable of providing a minimum of 300 L/min per m^2 of floor area (1 ft^3/min per ft^2 of floor area) during hours of normal operation.

6.3.2 A mechanical ventilation system shall not be required in an open parking structure.

6.3.3 Mechanical ventilating systems shall be installed in accordance with NFPA 90A. Ductwork shall be constructed of noncombustible material.

6.4 Fire Sprinkler Systems.

6.4.1 Automatic sprinkler systems shall conform to NFPA 13.

6.4.2 Automatic sprinkler systems shall be installed in portions of enclosed parking structures, the ceilings of which are less than 600 mm (24 in.) above grade, regardless of type of construction, and in enclosed parking structures of Type III or Type IV construction over 15 m (50 ft) in height.

6.4.3 Automatic sprinkler systems shall be installed in enclosed parking structures located at or above grade, or within or immediately below a building used for another occupancy.

Exception: Enclosed parking structures described above, having an approved, supervised, automatic fire detection and alarm system installed throughout the parking area in accordance with NFPA 72 and a mechanical ventilation system in accordance with 5.3.2.

6.4.4 Automatic sprinkler systems shall not be required in open parking structures.

6.4.5 Maintenance. Fire sprinkler systems shall be regularly inspected, tested, and maintained in accordance with NFPA 25.

6.5 Standpipes.

6.5.1 Parking structures exceeding a height of 15 m (50 ft) or having parking levels below grade shall be provided with a Class I standpipe system in accordance with NFPA 14.

6.5.2 Class I standpipe systems of the manual dry type shall be permitted in open parking structures.

6.5.3 Maintenance. Standpipe systems shall be regularly inspected, tested, and maintained in accordance with NFPA 25.

6.6 Detection, Alarm, and Communications Systems.

6.6.1 Where provided, fire detection and alarm systems shall conform to *NFPA 72*.

6.6.2 An approved, supervised, automatic fire detection and alarm system shall be installed in enclosed parking structures having a mechanical ventilation system, located at or above grade, or within or immediately below a building used for another occupancy.

Exception: Enclosed parking structures described above in 6.6.2, having an approved automatic sprinkler system installed throughout in accordance with NFPA 13.

6.6.3 Fire alarm systems shall not be required in open parking structures.

6.6.4 Maintenance. Fire alarm systems shall be regularly inspected, tested, and maintained in accordance with *NFPA 72*.

Chapter 7 Special Hazard Protection

7.1 Storage Use, Handling, and Dispensing of Fuels and Lubricants.

7.1.1 The storage, use, handling, and dispensing of flammable or combustible liquids shall conform to NFPA 30 and NFPA 30A.

7.1.2 The storage, use, handling, and dispensing of liquefied petroleum gas shall conform to NFPA 58.

7.1.3 The storage, use, handling, and dispensing of natural gas fuels shall conform to NFPA 52.

Chapter 8 Housekeeping

8.1 Equipment. Equipment and safety devices shall be maintained and hazardous accumulations of combustible material shall be removed from the structure.

8.2 Aisles. Clear aisle space shall be maintained to permit ready access to, and the use of, fire-fighting equipment.

8.3 Lockers. Metal lockers shall be provided for employees' clothes.

8.4 Waste Receptacles.

8.4.1 Approved metal receptacles with self-closing covers shall be provided for the storage or disposal of oil-soaked waste or cloths.

8.4.2 Containers having a capacity of greater than 208 L (55 gal) used for combustible trash shall be of metal construction and shall be covered.

8.5 Floors. Floors shall be kept clean and free of oil and grease.

Chapter 9 Special Structures

9.1 General. The requirements of Chapter 9 modify the requirements of Chapters 1 through 8.

9.2 Automated-Type Parking Structures.

9.2.1 Means of Egress. Mean of egress in accordance with Chapter 4 are not required in automated-type parking structures.

9.2.2 Access for Fire Service and Maintenance Personnel.

9.2.2.1 Access shall be provided in accordance with Table 40.2.5.2.1 of NFPA *101* except that the 560 mm (22 in.) minimum dimensional criteria shall be changed to 915 mm (36 in.) in all locations in the table.

9.2.2.2 Horizontal walkways for access shall be provided at intervals of 6 m (19.5 ft) vertically and 30 m (98.5 ft) horizontally.

9.2.2.3 Travel distance to the exterior or to an enclosed stair shall be provided in accordance with the distance criteria for "Special Purpose Industrial Occupancies" in Table 40.2.6 of NFPA *101*.

9.2.2.4 One exterior door shall be provided at grade for every stair.

9.2.3 Ventilation.

9.2.3.1 An enclosed automated-type parking structure shall be provided with a ventilation system that continuously provides a minimum of two air changes per hour.

9.2.4 Fire Protection Systems.

9.2.4.1* An automatic sprinkler system shall be installed in an automated mechanical-type parking structure in accordance with NFPA 13.

9.2.4.2 Standpipes shall not be required in automated-type parking structures.

9.2.4.3 Fire alarm systems shall not be required in automated-type parking structures.

Annex A Explanatory Material

Annex A is not a part of the requirements of this NFPA document but is included for informational purposes only. This annex contains explanatory material, numbered to correspond with the applicable text paragraphs.

A.3.2.1 Approved. 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 that is concerned with product evaluations and is thus in a position to determine compliance with appropriate standards for the current production of listed items.

A.3.2.2 Authority Having Jurisdiction (AHJ). The phrase "authority having jurisdiction," or its acronym AHJ, 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.

A.3.2.4 Listed. The means for identifying listed equipment may vary for each organization concerned with product evaluation; some organizations 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.

A.3.3.2 Parking Structure. A parking structure is permitted to be enclosed or open, use ramps, and use mechanical control push-button-type elevators to transfer vehicles from one floor to another. Motor vehicles are permitted to be parked by the driver or an attendant or are permitted to be parked mechanically by automated facilities. Where automated-type parking is provided, the operator of those facilities is permitted either to remain at the entry level or to travel to another level. Motor fuel is permitted to be dispensed, and motor vehicles are permitted to be serviced in a parking structure in accordance with NFPA 30A.

A.4.1.5 Exit travel distance is measured in accordance with NFPA *101* and includes the distance measured along the plane of the tread nosings in open stairs.

A.5.1.1 Building codes generally contain provisions limiting the heights and areas of parking structures of various types of construction.

A.5.2.3 See NFPA 220.

A.5.3.1.2 Asphalt pavement applied over earth substrates is an acceptable method of surfacing.

A.6.3.1 This ventilation requirement is also intended to address vehicles that use natural gas [compressed natural gas (CNG) or liquefied natural gas (LNG)]. A natural gas leak should pose no greater risk than leaks of conventional motor fuels.

A.9.2.4.1 As with the more conventional parking garages, NFPA 88A refers to other NFPA standards (NFPA 13, 14, 72, *101*, and 5000) for certain fire protection features of automated-type parking structures.

NFPA 13 at this time does not describe how to protect automated-type parking structures. The NFPA 13 approach to protection of multiple row racks [based on storage cubes of 1.22 m to 1.52 m (4 ft to 5 ft) on each side] does not adequately address the automated-type parking structure commodity [Group A plastics (vehicles with both plastics and fuel loads), of nominal dimensions 2.13 m × 5.79 m × 1.83 m (7 ft × 19 ft × 6 ft) high on solid shelves, dynamically controlled by the facility's "system"].

The Technical Committee on Garages and Parking Structures acknowledges that determining the minimum requirements for sprinkler protection is within the scope of the Sprinkler Project's Technical Committee on Sprinkler System Discharge Criteria. To identify the automatic sprinkler issues specific to the automated-type parking structures and to support the work of the Sprinkler Project, a research topic description proposal has been submitted to the Sprinkler Research Council of NFPA's Fire Protection Research Foundation.

Annex B Informational References

B.1 Referenced Publications. The documents or portions thereof listed in this annex are referenced within the informational sections of this standard and are not part of the requirements of this document unless also listed in Chapter 2 for other reasons.

B.1.1 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2010 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2010 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2008 edition.

NFPA 72®, *National Fire Alarm and Signaling Code*, 2010 edition.

NFPA *101®*, *Life Safety Code®*, 2009 edition.

NFPA 220, *Standard on Types of Building Construction*, 2009 edition.

NFPA 5000®, *Building Construction and Safety Code®*, 2009 edition.

B.1.2 Other Publications. (Reserved)

B.2 Informational References. The following documents or portions thereof are listed here as informational resources only. They are not a part of the requirements of this document.

B.2.1 ASME Publications. American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016-5990.

ASME B30.13, *Storage/Retrieval Machines and Associated Equipment,* 2003.

B.2.2 RMI Publications. Rack Manufacturers Institute, An Affiliated Trade Association of Material Handling Industry of America, 8720 Red Oak Boulevard, Suite 201, Charlotte, NC 28217-3992.

MH16.1, *Specification for the Design, Testing and Utilization of Industrial Steel Storage Racks,* 2004.

B.3 References for Extracts in Informational Sections. (Reserved)

Index

Sequence of Events Leading to Issuance of an NFPA Committee Document

Step 1: Call for Proposals

- Proposed new Document or new edition of an existing Document is entered into one of two yearly revision cycles, and a Call for Proposals is published.

Step 2: Report on Proposals (ROP)

- Committee meets to act on Proposals, to develop its own Proposals, and to prepare its Report.
- Committee votes by written ballot on Proposals. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.
- Report on Proposals (ROP) is published for public review and comment.

Step 3: Report on Comments (ROC)

- Committee meets to act on Public Comments to develop its own Comments, and to prepare its report.
- Committee votes by written ballot on Comments. If two-thirds approve, Report goes forward. Lacking two-thirds approval, Report returns to Committee.
- Report on Comments (ROC) is published for public review.

Step 4: Technical Report Session

- "*Notices of intent to make a motion"* are filed, are reviewed, and valid motions are certified for presentation at the Technical Report Session. ("Consent Documents" that have no certified motions bypass the Technical Report Session and proceed to the Standards Council for issuance.)
- NFPA membership meets each June at the Annual Meeting Technical Report Session and acts on Technical Committee Reports (ROP and ROC) for Documents with "certified amending motions."
- Committee(s) vote on any amendments to Report approved at NFPA Annual Membership Meeting.

Step 5: Standards Council Issuance

- Notification of intent to file an appeal to the Standards Council on Association action must be filed within 20 days of the NFPA Annual Membership Meeting.
- Standards Council decides, based on all evidence, whether or not to issue Document or to take other action, including hearing any appeals.

Committee Membership Classifications

The following classifications apply to Technical Committee members and represent their principal interest in the activity of the committee.

M *Manufacturer:* A representative of a maker or marketer of a product, assembly, or system, or portion thereof, that is affected by the standard.

U *User:* A representative of an entity that is subject to the provisions of the standard or that voluntarily uses the standard.

I/M *Installer/Maintainer:* A representative of an entity that is in the business of installing or maintaining a product, assembly, or system affected by the standard.

L *Labor:* A labor representative or employee concerned with safety in the workplace.

R/T *Applied Research/Testing Laboratory:* A representative of an independent testing laboratory or independent applied research organization that promulgates and/or enforces standards.

E *Enforcing Authority:* A representative of an agency or an organization that promulgates and/or enforces standards.

I *Insurance:* A representative of an insurance company, broker, agent, bureau, or inspection agency.

C *Consumer:* A person who is, or represents, the ultimate purchaser of a product, system, or service affected by the standard, but who is not included in the *User* classification.

SE *Special Expert:* A person not representing any of the previous classifications, but who has a special expertise in the scope of the standard or portion thereof.

NOTES;
1. "Standard" connotes code, standard, recommended practice, or guide.
2. A representative includes an employee.
3. While these classifications will be used by the Standards Council to achieve a balance for Technical Committees, the Standards Council may determine that new classifications of members or unique interests need representation in order to foster the best possible committee deliberations on any project. In this connection, the Standards Council may make appointments as it deems appropriate in the public interest, such as the classification of "Utilities" in the National Electrical Code Committee.
4. Representatives of subsidiaries of any group are generally considered to have the same classification as the parent organization.