

Copyright © 2003, National Fire Protection Association. All Rights Reserved

NFPA 1 Uniform Fire Code™

2003 Edition

This edition of NFPA 1, *Uniform Fire Code*™, was prepared by the Technical Committee on Fire Prevention Code 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 1 was approved as an American National Standard on January 17, 2003.

Origin and Development of NFPA 1

This code was originally developed as a result of the requests of many members of the National Fire Protection Association for a document covering all aspects of fire protection and prevention that used the other developed NFPA codes and standards. NFPA staff initiated this work in 1971 upon a directive from the NFPA Board of Directors.

The original code was written around a format that served as a guide for the development of a local fire prevention code. Prerogatives of local officials were excluded from the main text of the document but included within appendices as guidance for exercising desired prerogatives.

In the late 1980s, the Fire Marshals Association of North America undertook the task of developing a code that was more self-contained, adding administrative sections and extracting heavily from other NFPA codes and standards. The draft was submitted to the Fire Prevention Code Committee. The Committee examined changes in the built environment as it is affected by fire and incorporated significant portions of the *Life Safety Code*®. A special task group on hazardous materials examined technological changes in the handling, storage, and use of flammable and combustible materials. Chapters extracting hazardous material requirements placed a greater emphasis on protection of life and property from chemical products made and used in the environment. A major rewrite resulted in the 1992 edition of the *Fire Prevention Code*.

The 1997 edition updated the text extracted from other NFPA codes and standards and added compliance with additional NFPA codes and standards as part of the requirements of NFPA 1.

The 2000 edition of NFPA 1 was a complete revision that updated the text extracted from other NFPA codes and standards. Additional direct references from NFPA codes and standards that are essential to a code official's use of the document were added. The Committee also added a new section on performance-based design as a valuable tool for code officials and design professionals. NFPA 1 was restructured to be more functional with respect to administration, code enforcement, and regulatory adoption processes.

The 2003 edition of NFPA 1, *Uniform Fire Code*™, is a complete revision of the code. It incorporates provisions from the Western Fire Chiefs, *Uniform Fire Code*™, under a partnership between NFPA and Western Fire Chiefs, while updating and expanding the provisions extracted from other key NFPA codes and standards. To emphasize the partnership, the document was renamed NFPA 1, *Uniform Fire Code*™. The *Uniform Fire Code* is a trademark of the Western Fire Chiefs Association.

NFPA 1, *Uniform Fire Code*™, was restructured into parts to be more compatible with the regulatory adoption procedures, including administration and code enforcement, occupancies, processes, equipment, and hazardous materials provisions. The Committee included a newly expanded chapter on performance-based design as an enhanced tool for code officials and design professionals. Additional extracts and references from NFPA codes and standards that are essential to a code official's use of the document were added, bringing the number of referenced NFPA codes and standards to over 125. Additional chapters on hazardous materials have been included that incorporate the provisions covered in the *Uniform Fire Code*™.

NFPA 1, *Uniform Fire Code*™, reflects the technical knowledge of the originating committees who are responsible for the codes and standards from which text is extracted and incorporates technical provisions from the Western Fire Chiefs' *Uniform Fire Code*™. This Code is intended to provide state, county, and local jurisdictions with an effective local fire code.

51.3 Safety Controls. Safety controls, as specified in NFPA 86, *Standard for Ovens and Furnaces*, NFPA 86C, *Standard for Industrial Furnaces Using a Special Processing Atmosphere*, and NFPA 86D, *Standard for Industrial Furnaces Using Vacuum as an Atmosphere*, shall be sufficient in number and substantially constructed and arranged to maintain the required conditions of safety and prevent the development of fire and explosion hazards.

Chapter 52 Stationary Lead-Acid Battery Systems

52.1 General. Stationary lead-acid battery systems having an electrolyte capacity of more than 100 gal (378.5 L) in sprinklered buildings or 50 gal (189.3 L) in unsprinklered buildings used for facility standby power, emergency power, or uninterrupted power supplies shall be in accordance with Chapter 52.

52.2 Permits.

52.2.1 Permits, where required, shall comply with 1.12.19.

52.2.2 Prior to installation, plans shall be submitted and approved by the AHJ.

52.3 Safety Features.

52.3.1 Safety Venting. Batteries shall be provided with safety venting caps.

52.3.2 Thermal Runaway. Valve-regulated lead-acid (VRLA) battery systems shall be provided with a listed device or other approved method to preclude, detect, and control thermal runaway.

52.3.3 Location and Occupancy Separation.

52.3.3.1 Battery systems shall be permitted in the same room as the equipment that they support.

52.3.3.2 Battery systems shall be housed in a noncombustible, locked cabinet or other enclosure to prevent access by unauthorized personnel unless located in a separate equipment room accessible only to authorized personnel.

52.3.3.3 In other than assembly, educational, detention and correction facilities, health care, ambulatory health care, day care centers, residential board and care, and residential occupancies, battery systems shall be located in a room separated from other portions of the building by a minimum of a 1-hour fire barrier.

52.3.3.4 In assembly, educational, detention and correction facilities, health care, ambulatory health care, day care centers, residential board and care, and residential occupancies, battery systems shall be located in a room separated from other portions of the building by a minimum of a 2-hour fire barrier.

52.3.4 Spill Control.

52.3.4.1 Rooms, buildings, or areas containing free-flowing liquid electrolyte in individual vessels having a capacity of more than 55 gal (208 L) or multiple vessels having an aggregate capacity exceeding 1000 gal (3785 L) shall be provided with spill control to prevent the flow of liquids to adjoining areas.

52.3.4.2* An approved method and materials for the control of a spill of electrolyte shall be provided. The method shall be capable of controlling a spill from the single largest vessel.

52.3.5 Neutralization.

52.3.5.1 An approved method to neutralize spilled electrolyte shall be provided.

52.3.5.2 The method shall be capable of neutralizing a spill from the largest lead-acid battery to a pH between 7.0 and 9.0.

52.3.6 Ventilation. Ventilation shall be provided for rooms and cabinets in accordance with the mechanical code adopted by the jurisdiction and one of the following:

- (1) The ventilation system shall be designed to limit the maximum concentration of hydrogen to 1.0 percent of the total volume of the room during the worst-case event of simultaneous "boost" charging of all the batteries, in accordance with nationally recognized standards.
- (2) Continuous ventilation shall be provided at a rate of not less than 1 ft³/min/ft² (5.1 L/sec/m²) of floor area of the room or cabinet.

52.3.7 Environment. The battery environment shall be controlled or analyzed to maintain temperature in a safe operating range for the specific battery technology used.

52.3.8 Signs.

52.3.8.1 Doors or accesses into rooms, buildings, or areas containing stationary lead-acid battery systems shall be provided with approved signs.

52.3.8.2 The signs shall state that the room contains lead-acid battery systems, that the battery room contains energized electrical circuits, and that the battery electrolyte solutions are corrosive liquids.

52.3.8.3 Battery cabinets shall be provided with exterior labels that identify the manufacturer and model number of the system and electrical rating (voltage and current) of the contained battery system. Within the cabinet, signs shall be provided to indicate the relevant electrical, chemical, and fire hazard.

52.3.9 Seismic Protection. In seismically active areas, battery systems shall be seismically braced in accordance with the building code.

52.3.10 Smoke Detection. An approved automatic smoke detection system shall be installed in such areas and supervised by an approved central, proprietary, or remote station service of a local alarm that will give an audible signal at a constantly attended location.

Chapter 53 Mechanical Refrigeration

53.1* General.

53.1.1 Refrigeration unit and system installations having a refrigerant circuit containing more than 220 lb (100 kg) of Group A1 or 30 lb (13.6 kg) of any other group refrigerant shall be in accordance with this chapter and the mechanical code adopted by the jurisdiction.

53.1.2 The AHJ shall be authorized to exempt temporary or portable installations.

53.2 Classification. Refrigerants shall be classified into safety groups in accordance with the mechanical code adopted by the jurisdiction.

53.3 Definitions. Definitions and classifications of refrigerant groups shall be defined according to the mechanical code adopted by the jurisdiction. (*For general definitions, see Chapter 3.*)

53.4 Permits and Plans.

53.4.1 Permits. Permits, where required, shall comply with 1.12.19.