NFPA®

96

Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations

2021



IMPORTANT NOTICES AND DISCLAIMERS CONCERNING NFPA® STANDARDS

NFPA® codes, standards, recommended practices, and guides ("NFPA Standards"), of which the document contained herein is one, are developed through a consensus standards development process approved by the American National Standards Institute. This process brings together volunteers representing varied viewpoints and interests to achieve consensus on fire and other safety issues. While the NFPA administers the process and establishes rules to promote fairness in the development of consensus, it does not independently test, evaluate, or verify the accuracy of any information or the soundness of any judgments contained in NFPA Standards.

The NFPA disclaims liability for any personal injury, property, or other damages of any nature whatsoever, whether special, indirect, consequential or compensatory, directly or indirectly resulting from the publication, use of, or reliance on NFPA Standards. The NFPA also makes no guaranty or warranty as to the accuracy or completeness of any information published herein.

In issuing and making NFPA Standards available, the NFPA is not undertaking to render professional or other services for or on behalf of any person or entity. Nor is the NFPA undertaking to perform any duty owed by any person or entity to someone else. Anyone using this document should rely on his or her own independent judgment or, as appropriate, seek the advice of a competent professional in determining the exercise of reasonable care in any given circumstances.

The NFPA has no power, nor does it undertake, to police or enforce compliance with the contents of NFPA Standards. Nor does the NFPA list, certify, test, or inspect products, designs, or installations for compliance with this document. Any certification or other statement of compliance with the requirements of this document shall not be attributable to the NFPA and is solely the responsibility of the certifier or maker of the statement.

REVISION SYMBOLS IDENTIFYING CHANGES FROM THE PREVIOUS EDITION

Text revisions are shaded. A \triangle before a section number indicates that words within that section were deleted and a \triangle to the left of a table or figure number indicates a revision to an existing table or figure. When a chapter was heavily revised, the entire chapter is marked throughout with the \triangle symbol. Where one or more sections were deleted, a \bullet is placed between the remaining sections. Chapters, annexes, sections, figures, and tables that are new are indicated with an N.

Note that these indicators are a guide. Rearrangement of sections may not be captured in the markup, but users can view complete revision details in the First and Second Draft Reports located in the archived revision information section of each code at www.nfpa.org/docinfo. Any subsequent changes from the NFPA Technical Meeting, Tentative Interim Amendments, and Errata are also located there.

REMINDER: UPDATING OF NFPA STANDARDS

Users of NFPA codes, standards, recommended practices, and guides ("NFPA Standards") should be aware that these documents may be superseded at any time by the issuance of a new edition, may be amended with the issuance of Tentative Interim Amendments (TIAs), or be corrected by Errata. It is intended that through regular revisions and amendments, participants in the NFPA standards development process consider the then-current and available information on incidents, materials, technologies, innovations, and methods as these develop over time and that NFPA Standards reflect this consideration. Therefore, any previous edition of this document no longer represents the current NFPA Standard on the subject matter addressed. NFPA encourages the use of the most current edition of any NFPA Standard [as it may be amended by TIA(s) or Errata] to take advantage of current experience and understanding. An official NFPA Standard at any point in time consists of the current edition of the document, including any issued TIAs and Errata then in effect.

To determine whether an NFPA Standard has been amended through the issuance of TIAs or corrected by Errata, visit the "Codes & Standards" section at www.nfpa.org.

ADDITIONAL IMPORTANT NOTICES AND DISCLAIMERS CONCERNING NFPA® STANDARDS

Updating of NFPA Standards

Users of NFPA codes, standards, recommended practices, and guides ("NFPA Standards") should be aware that these documents may be superseded at any time by the issuance of a new edition, may be amended with the issuance of Tentative Interim Amendments (TIAs), or be corrected by Errata. It is intended that through regular revisions and amendments, participants in the NFPA standards development process consider the then-current and available information on incidents, materials, technologies, innovations, and methods as these develop over time and that NFPA Standards reflect this consideration. Therefore, any previous edition of this document no longer represents the current NFPA Standard on the subject matter addressed. NFPA encourages the use of the most current edition of any NFPA Standard [as it may be amended by TIA(s) or Errata] to take advantage of current experience and understanding. An official NFPA Standard at any point in time consists of the current edition of the document, including any issued TIAs and Errata then in effect.

To determine whether an NFPA Standard has been amended through the issuance of TIAs or corrected by Errata, visit the "Codes & Standards" section at www.nfpa.org.

Interpretations of NFPA Standards

A statement, written or oral, that is not processed in accordance with Section 6 of the Regulations Governing the Development of NFPA Standards shall not be considered the official position of NFPA or any of its Committees and shall not be considered to be, nor be relied upon as, a Formal Interpretation.

Patents

The NFPA does not take any position with respect to the validity of any patent rights referenced in, related to, or asserted in connection with an NFPA Standard. The users of NFPA Standards bear the sole responsibility for determining the validity of any such patent rights, as well as the risk of infringement of such rights, and the NFPA disclaims liability for the infringement of any patent resulting from the use of or reliance on NFPA Standards.

NFPA adheres to the policy of the American National Standards Institute (ANSI) regarding the inclusion of patents in American National Standards ("the ANSI Patent Policy"), and hereby gives the following notice pursuant to that policy:

NOTICE: The user's attention is called to the possibility that compliance with an NFPA Standard may require use of an invention covered by patent rights. NFPA takes no position as to the validity of any such patent rights or as to whether such patent rights constitute or include essential patent claims under the ANSI Patent Policy. If, in connection with the ANSI Patent Policy, a patent holder has filed a statement of willingness to grant licenses under these rights on reasonable and nondiscriminatory terms and conditions to applicants desiring to obtain such a license, copies of such filed statements can be obtained, on request, from NFPA. For further information, contact the NFPA at the address listed below.

Law and Regulations

Users of NFPA Standards should consult applicable federal, state, and local laws and regulations. NFPA does not, by the publication of its codes, standards, recommended practices, and guides, intend to urge action that is not in compliance with applicable laws, and these documents may not be construed as doing so.

Copyrights

NFPA Standards are copyrighted. They are made available for a wide variety of both public and private uses. These include both use, by reference, in laws and regulations, and use in private self-regulation, standardization, and the promotion of safe practices and methods. By making these documents available for use and adoption by public authorities and private users, the NFPA does not waive any rights in copyright to these documents.

Use of NFPA Standards for regulatory purposes should be accomplished through adoption by reference. The term "adoption by reference" means the citing of title, edition, and publishing information only. Any deletions, additions, and changes desired by the adopting authority should be noted separately in the adopting instrument. In order to assist NFPA in following the uses made of its documents, adopting authorities are requested to notify the NFPA (Attention: Secretary, Standards Council) in writing of such use. For technical assistance and questions concerning adoption of NFPA Standards, contact NFPA at the address below.

For Further Information

All questions or other communications relating to NFPA Standards and all requests for information on NFPA procedures governing its codes and standards development process, including information on the procedures for requesting Formal Interpretations, for proposing Tentative Interim Amendments, and for proposing revisions to NFPA standards during regular revision cycles, should be sent to NFPA headquarters, addressed to the attention of the Secretary, Standards Council, NFPA, 1 Batterymarch Park, P.O. Box 9101, Quincy, MA 02269-9101; email: stds_admin@nfpa.org.

For more information about NFPA, visit the NFPA website at www.nfpa.org. All NFPA codes and standards can be viewed at no cost at www.nfpa.org/docinfo.

Copyright © 2020 National Fire Protection Association®. All Rights Reserved.

NFPA® 96

Standard for

Ventilation Control and Fire Protection of Commercial Cooking Operations

2021 Edition

This edition of NFPA 96, Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations, was prepared by the Technical Committee on Venting Systems for Cooking Appliances. It was issued by the Standards Council on March 15, 2020, with an effective date of April 4, 2020, and supersedes all previous editions.

This edition of NFPA 96 was approved as an American National Standard on April 4, 2020.

Origin and Development of NFPA 96

The subject of the ventilation of restaurant-type cooking equipment was first considered by the NFPA Committee on Blower and Exhaust Systems, which developed material on ventilation of restaurant-type cooking equipment to be included in NFPA 91, Standard for the Installation of Blower and Exhaust Systems for Dust, Stock, and Vapor Removal or Conveying. That standard was adopted by the Association in 1946, and revisions were adopted in 1947 and 1949.

When the NFPA Committee on Chimneys and Heating Equipment was organized in 1955, the material on ventilation of restaurant cooking equipment in NFPA 91 was assigned to the new committee with the suggestion that it be revised and published as a separate standard. Since then, the standard has been published as NFPA 96. Editions prepared by the Committee on Chimneys and Heating Equipment were adopted by the Association in 1961, 1964, 1969, 1970, 1971, 1973, 1976, 1978, 1980, and 1984.

The Correlating Committee on Chimneys and Other Heat and Vapor Removal Equipment was discharged by the Standards Council in 1986. The Technical Committee that prepared the 1987 edition of NFPA 96 became known as the Technical Committee on Venting Systems for Cooking Appliances.

In the 1991 edition, clearance requirements to combustible material were revised and expanded, including appendix figures that illustrated examples. A new definition for *limited-combustible* was added to the standard, and an appendix table was included to show typical construction assemblies. Chapters 3 and 4 were totally revised.

In the 1994 edition, the Committee changed the name of the standard from Standard for the Installation of Equipment for the Removal of Smoke and Grease-Laden Vapors from Commercial Cooking Equipment to Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations. The title change reflected other changes in the standard: two new chapters, one on recirculating systems and the other on solid fuel cooking operations, were added. A change to clearance and enclosure requirements in the 1994 edition allowed, for the first time, materials or products to be directly applied to a duct.

The Committee prepared a revision to the standard reporting to the 1996 Fall Meeting, which was returned to the Committee at the Technical Committee Reports Session.

The 1998 edition contained new definitions, minor revisions throughout, and a completely revised Chapter 7 on fire-extinguishing equipment.

The 2001 edition revised the document scope to clarify the application of the standard regarding residential-type cooking equipment. Further technical changes clarified requirements for duct installation, rooftop terminations, and fire protection equipment. The 2001 edition also contained a significant organizational and editorial revision based on the *Manual of Style for NFPA Technical Committee Documents*.

The 2004 edition added a chapter that addressed the requirements for downdraft appliance ventilation as well as clarifications of the requirements for cleaning and maintaining exhaust systems and diagrams detailing new arrangements for hoods with integrated supply air.

The 2008 edition clarified the requirements for field-applied and factory-built grease duct enclosures. It also recognized new technologies for venting, such as ultraviolet hoods and ventilating ceilings. New requirements were also added for documentation of exhaust system cleaning and maintenance.

The 2011 edition added additional requirements for equipment installed in hoods and ducts. It also required persons conducting inspection and testing of listed hoods to be certified. The maximum permitted distance between a fire extinguisher and an appliance was clarified, and notification of the impairment of the fire-extinguishing system was required to be given in writing.

The 2014 edition introduced new requirements for the use of solid fuel as a flavor enhancer. It also added a listing requirement for fans used in exhaust systems, a diagram of a wall-mounted fan, and a requirement for exhaust fan activation when any appliance under a hood is turned on. Criteria that affected existing dry or wet chemical systems not in compliance with ANSI/UL 300, Standard for Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, when significant changes are made to a system and that established a deadline for fire protection systems to meet the minimum requirements also were added.

The 2017 edition added a new normative annex on mobile and temporary cooking operations. The normative annex was written in mandatory language but was not intended to be enforced unless specifically adopted by a jurisdiction or applied on a voluntary basis. This annex included requirements not limited to clearance, hoods, ducts, terminations, fire extinguishing systems, carbon monoxide detectors, location, training, generators, LP-gas, as well as procedures for the use, inspection, testing, and maintenance of equipment. The language in the body of the standard clarified that fixed and mobile cooking equipment was covered by NFPA 96. The term *solid fuel* was used in lieu of charcoal to cover the different types of solid fuel, not just one type. A device installed in a duct, such as a pollution control device, now must be protected by its own fire extinguishing system.

The 2021 edition of NFPA 96 includes a new chapter on mobile and temporary cooking operations. This content, formerly located in normative Annex B, has been moved into the body of the standard to provide the minimum fire safety requirements for mobile and temporary cooking operations. Duplicate requirements related to this subject have been removed and language has been modified throughout the standard to clarify the provisions for buildings as well as mobile and temporary cooking operations. In addition to these changes, the equivalent UL standards to be used in Canada are now provided. Lastly, the term *activate* has been replaced with the proper term *actuate* throughout the standard.

Technical Committee on Venting Systems for Cooking Appliances

Christopher A. Roth, Chair Town of Brighton, NY [E]

R. T. Leicht, Secretary State of Delaware, DE [E] Rep. International Fire Marshals Association

Phil Ackland, Phillip Ackland Holdings Ltd., Canada [SE]

Larry Angle, M. Jacks Fire & Safety, TX [IM]

Rep. National Association of Fire Equipment Distributors

Mark A. Buchanan, City of Boston Fire Department, MA [E]

Ted Cabaniss, Zurich Services Corporation, SC [I]

Mark T. Conroy, Brooks Equipment Company, MA [M]

W. Nelson Dilg, Nelbud Services Group, NJ [IM]

Rep. International Kitchen Exhaust Cleaning Association

David Lee Hensel, SSA Foodservice Consultants, FL [SE] Rep. Foodservice Consultants Society International (FCSI)

Christopher M. Hiener, Union Fire District of South Kingstown, RI

Stephen M. Hill, JENSEN HUGHES, MD [SE]

Rep. JENSEN HUGHES

David Kearney, Philadelphia Fire Department, PA [E]

Thomas J. Klem, T. J. Klem and Associates, LLC, AZ [SE] Rep. International Association of Arson Investigators, Inc.

Steven F. Levin, Libertyville, IL [SE]

John Lopes, Department of the Navy, NAVFAC Pacific, HI [U]

Bruce Lukens, Gaylord Industries, OR [M]

Ellen McFarland-Humphreys, LA Office of the Fire Marshal, LA [E]

Daryl Mirza, Roof Top Solutions, IL [IM]

Rep. Power Washers of North America

James G. Munger, QDOT Engineering, LLC, PA [SE]

Shaun Ray, Metal-Fab, Inc., KS [M]

Rep. Air-Conditioning, Heating, & Refrigeration Institute

M. D. "Doc" Reisman, Averus, Inc., IL [IM]

Rep. Certified Hood & Duct Cleaners Association

Frederick Sanford, Liberty Mutual Insurance Company, MA [I]

Scott Schanken, Intertek Testing Services, OH [RT]

Matthew Schumacher, UT Southwestern Medical Center, TX [U]

Dwayne E. Sloan, UL LLC, NC [RT]

James F. Valentine, Jr., James F. Valentine, Jr., Inc., NJ [IM]

William Vegso, Buckeye Fire Equipment Company, NC [M] Rep. Fire Equipment Manufacturers' Association

Adam D. Walker, Johnson Controls, WI [M]

Rep. National Fire Sprinkler Association

Alternates

Tracy Ashmore, Certified Hood & Duct Cleaners Association, TN [IM]

(Alt. to M. D. "Doc" Reisman)

David A. de Vries, Firetech Engineering Inc., IL [SE] (Alt. to Thomas J. Klem)

Gray M. Fowler, Liberty Mutual Insurance Group, MS [I] (Alt. to Frederick Sanford)

Kevin Ryan Hall, National Fire Sprinkler Association (NFSA), MD

(Alt. to Adam D. Walker)

Norbert W. Makowka, National Association of Fire Equipment Distributors, IL [IM]

(Alt. to Larry Angle)

Rick Merck, QDOT Engineering LLC, PA [SE]

(Alt. to James G. Munger)

Frank Mitarotonda, Chief Fire Prevention, NY [IM]

(Alt. to W. Nelson Dilg)

Thomas E. Pavlock, Zurich Insurance, FL [I]

(Alt. to Ted Cabaniss)

Michael Rader, Parkland Hospitals, TX [U]

(Alt. to Matthew Schumacher)

Kurt A. Ruchala, JENSEN HUGHES, MA [SE]

(Alt. to Stephen M. Hill)

John W. Rudd, Delaware State Fire Marshal Office, DE [E] (Alt. to R. T. Leicht)

Randy N. Russo, Averus USA, Inc., IL [IM] (Alt. to Daryl Mirza)

Michael A. Schlatman, FCII, KS [SE]

(Alt. to Phil Ackland)

Blake M. Shugarman, UL LLC, IL [RT]

(Alt. to Dwayne E. Sloan)

Todd W. Warner, Brooks Equipment Company, Inc., MT [M] (Alt. to Mark T. Conroy)

Nonvoting

Russell P. Fleming, Northeast Fire Suppression Associates, LLC, NH

Rep. National Fire Protection Association (NFPA)

Jacqueline Wilmot, NFPA Staff Liaison

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.

Committee Scope: This Committee shall have primary responsibility for documents on fire safety in the design, installation, and use of exhaust systems (including hoods, grease removal devices, exhaust ducts, dampers, air-moving devices; and auxiliary equipment) for the removal of products of combustion, heat, grease, and vapors from cooking equipment, including the application of associated fire extinguishing systems.