

NFPA[®] 1852

Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)

2008 Edition



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

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NFPA® 1852

Standard on

Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)

2008 Edition

This edition of NFPA 1852, *Standard on Selection, Care, and Maintenance of Open-Circuit Self-Contained Breathing Apparatus (SCBA)*, was prepared by the Technical Committee on Respiratory Protection Equipment and released by the Technical Correlating Committee on Fire and Emergency Services Protective Clothing and Equipment. It was issued by the Standards Council on December 11, 2007, with an effective date of December 31, 2007, and supersedes all previous editions.

This edition of NFPA 1852 was approved as an American National Standard on December 31, 2007.

Origin and Development of NFPA 1852

The Committee was assigned the responsibility of addressing selection, care, and maintenance issues for open-circuit self-contained breathing apparatus (SCBA). To address these issues, the Committee developed this new document, NFPA 1852, which is oriented to the users of such SCBA and their respective organizations.

This new document was developed for organizations that use SCBA for the respiratory protection of their personnel who engage in emergency operations with the goal of reducing the safety risks and potential health risks associated with poorly maintained, contaminated, or damaged SCBA.

This document was also developed to fulfill the SCBA selection, care, and maintenance portions of the overall respiratory protection program required by NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, and applies to all SCBA that are certified as compliant with the current and previous editions of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*.

During the development of this document, committee member Deputy Chief Robert Kolenda of the Pittsburgh, Pennsylvania Bureau of Fire (PBF) worked tirelessly to develop meaningful requirements to assure the safety of fire and emergency services personnel who depend on SCBA for their respiratory protection and their lives. Chief Kolenda lost his son, Pittsburgh Fire Fighter Marc Kolenda, at a fire, due in part to inadequate protection provided by his SCBA.

The first edition, the 2002 edition of NFPA 1852, was acted on by the NFPA membership at its November Association Technical Meeting in Dallas, Texas, on 13 November 2001 and became effective on 31 January 2002.

In this 2008 edition, the second edition of NFPA 1852, the Committee processed a complete revision of the document including an overall revision of text for clarity, and revising text to up-to-date terminology since the last edition.

Section 1.3 was revised and restructured to include later editions of NFPA 1981 and to clarify to which documents this standard applies. Chapter 2 was revised to reference the documents referenced within the mandatory requirements and update editions approved by the Committee. Section 3.3 was reviewed and revised as necessary to update or add new definitions according to the Project's Glossary of Definitions Glossary.

Chapter 4 was completely reviewed for upgrades and modifications to existing text as necessary. A new Section 4.2 was added to cover the special procedures and notifications for hazards involving SCBA. Section 4.4 (formerly Section 4.3), SCBA Compliance — Upgrades and Retirement, was revised and reformatted to add new requirements for SCBA purchased during the effective periods of the 2000 and 2007 editions of NFPA 1981. In Chapter 5, paragraph 5.1.1 was expanded to include selected accessories that could be added to SCBA.

Overall, Chapters 5, 6, 7, and 8 were completely reviewed for upgrades and modifications to existing text as necessary, and the Annex material was updated and expanded to provide additional advisory information regarding selection, care, and maintenance issues.

This second edition, the 2008 edition, was issued by the NFPA Standards Council with an effective date of 31 December 2007.



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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 the design, performance, testing, and certification of protective clothing and protective equipment manufactured for fire and emergency services organizations and personnel, to protect against exposures encountered during emergency incident operations. This Committee shall also have the primary responsibility for documents on the selection, care, and maintenance of such protective clothing and protective equipment by fire and emergency services organizations and personnel.

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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 respiratory equipment, including breathing air, for fire and emergency services personnel during incidents involving hazardous or oxygen deficient atmospheres.

This Committee shall also have primary responsibility for documents on the selection, care, and maintenance of respiratory protection equipment and systems by fire and emergency services organizations and personnel.



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NFPA 1852**Standard on****Selection, Care, and Maintenance of
Open-Circuit Self-Contained Breathing
Apparatus (SCBA)****2008 Edition**

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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.

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

Chapter 1 Administration**1.1 Scope.**

1.1.1* This standard shall specify minimum requirements for the selection, care, and maintenance of open-circuit self-contained breathing apparatus (SCBA) and combination SCBA/supplied air respirator (SAR) that are used for respiratory protection during emergency operations in environments where the atmosphere is Immediately Dangerous to Life and Health (IDLH), or could become oxygen deficient or IDLH.

1.1.2 This standard shall specify the requirements for SCBA models as detailed in Section 1.3 of this chapter.

1.1.3 For fire departments, this standard shall specify the requirements for the SCBA selection, care, and maintenance component of the respiratory protection program required in Section 7.9 of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

1.1.4 This standard shall not specify requirements for any closed-circuit SCBA.

1.1.5 This standard shall not specify requirements for other respiratory protection program components of the organization such as SCBA training, appropriate use of SCBA for operations, and breathing air quality as these program components are under the jurisdiction of other NFPA standards.

1.1.6 This standard shall not specify requirements for accessories attached to the SCBA unless specifically addressed herein.

1.1.7 Nothing herein shall restrict any jurisdiction from exceeding these minimum requirements.

1.2 Purpose.

1.2.1 The purpose of this standard shall be to establish procedures as part of a program to provide care and maintenance for open-circuit SCBA and combination SCBA/SAR in order to reduce the safety risks and potential health risks associated with poorly maintained, contaminated, or damaged SCBA.

1.2.2 This standard shall also establish basic criteria for the evaluation and selection process associated with purchasing open-circuit SCBA to assure only SCBA that meet the requirements of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services* are acquired for use by emergency services organizations.

1.3 Application.**1.3.1 New and Existing SCBA.**

1.3.1.1 For fire departments, this standard shall apply to the requirements for selection, care, and maintenance of the SCBA component of the fire department's respiratory protection program as required by Section 7.9 of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*.

1.3.1.2 This standard shall apply to the acquisition of new open-circuit SCBA and to the preparation of new SCBA to go into the "in service" status.

1.3.1.3 This standard shall apply to the organization's existing open-circuit SCBA, other than as constrained by 1.3.1.6 and 1.3.1.7, that are covered in the care and maintenance part of the respiratory protection program for open-circuit SCBA, and shall also apply to the selection process to acquire new open-circuit SCBA to augment or replace existing SCBA.

1.3.1.4 This standard shall apply to open-circuit SCBA that were certified by an independent third-party certification organization as compliant with the 1992 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, and the 1997 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service*.

1.3.1.5 This standard shall apply to open-circuit SCBA that were certified by an independent third-party certification organization as compliant with the 2002 edition of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire and Emergency Services*, or with the 2007 edition or later editions of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*.

1.3.1.6 Only the requirements of Section 4.3 or the requirements referenced within Section 4.3 shall apply to any open-circuit SCBA that were confirmed by the SCBA manufacturer as meeting the requirements of the 1981 or 1987 editions of NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, or to NFPA 19B, *Standard on Respiratory Protective Equipment for Firefighters*.

1.3.1.7 Only the requirements of Section 4.3 or the requirements referenced within Section 4.3 shall apply to any open-circuit SCBA that were never confirmed as meeting the requirements of NFPA 19B, *Standard on Respiratory Protective Equipment for Firefighters*, or were never certified as compliant with any edition of NFPA 1981.

1.3.2 Implementation.

1.3.2.1 When this standard is adopted by an organization or by a jurisdiction, the authority having jurisdiction shall set a date or dates for achieving compliance with the requirements of this standard.

1.3.2.2 The organization or the jurisdiction shall be permitted to establish a phase-in schedule for compliance with specific requirements of this standard.

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 19B, *Standard on Respiratory Protective Equipment for Firefighters*, 1971 edition.

NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, 2007 edition.

NFPA 1901, *Standard for Automotive Fire Apparatus*, 2003 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, 1981 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, 1987 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters*, 1992 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for the Fire Service*, 1997 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus for Fire and Emergency Services*, 2002 edition.

NFPA 1981, *Standard on Open-Circuit Self-Contained Breathing Apparatus (SCBA) for Emergency Services*, 2007 edition.

NFPA 1982, *Standard on Personal Alert Safety Systems (PASS)*, 2007 edition.

NFPA 1989, *Standard on Breathing Air Quality for Emergency Services Respiratory Protection*, 2008 edition.

2.3 Other Publications.

2.3.1 U.S. Government Publications. U.S. Government Printing Office, Washington, DC 20402.

Title 29, Code of Federal Regulations, Part 1910.134, *Respiratory Protection*, 23 April 1998.

Title 29, Code of Federal Regulations, Part 1910.156, *Fire Brigades*, 18 June 1998.

2.3.2 Other Publications.

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

2.4 References for Extracts in Mandatory Sections. (Reserved)

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 Shall. Indicates a mandatory requirement.

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

3.2.5 Standard. A document, the main text of which contains only mandatory provisions using the word "shall" to indicate requirements and which is in a form generally suitable for mandatory reference by another standard or code or for adoption into law. Nonmandatory provisions shall be located in an appendix or annex, footnote, or fine-print note and are not to be considered a part of the requirements of a standard.

3.3 General Definitions.

3.3.1 Atmosphere-Supplying Respirator. A respirator that supplies the respirator user with breathing air from a source independent of the ambient atmosphere, which includes self-contained breathing apparatus (SCBA) and supplied air respirators (SAR). [See also 3.3.14, *Self-Contained Breathing Apparatus (SCBA)*, and 3.3.16, *Supplied Air Respirator (SAR)*.]

3.3.2 Care. Procedures for cleaning, decontamination, and storage of protective clothing and equipment.

3.3.3* Combination SCBA/SAR. An atmosphere-supplying respirator that supplies a respirable atmosphere to the user from a combination of two breathing air sources both of which are independent of the ambient environment. [See also 3.3.1, *Atmosphere-Supplying Respirator*; 3.3.14, *Self-Contained Breathing Apparatus (SCBA)*; and 3.3.16, *Supplied Air Respirator (SAR)*.]

3.3.4 Contamination/Contaminated. The process by which protective clothing or equipment has been exposed to hazardous materials or biological agents.

3.3.5 Cross Contamination. The transfer of contamination from one item to another or to the environment.

3.3.6 Fully Charged. An SCBA cylinder filled to greater than 90 percent of the NIOSH rated service pressure.

3.3.7 In-Service. Ready for immediate use.

3.3.8 Maintenance. Procedures for inspection, repair, and removal from service of protective clothing and equipment.

3.3.9* Organization. The entity that provides the direct management and supervision for emergency services response personnel.

3.3.10 Rebuild. To clean and examine compliant product thoroughly and make needed repairs and replace components as specified by the manufacturer.

3.3.11 SAR. An abbreviation for supplied air respirator. [See also 3.3.16, *Supplied Air Respirator (SAR)*.]

3.3.12 SCBA. An abbreviation for self-contained breathing apparatus. [See also 3.3.14, *Self-Contained Breathing Apparatus (SCBA)*.]

3.3.13 Selection. The process of determining what protective clothing and equipment (PCE) are necessary for protection of emergency services response personnel from an anticipated specific hazard or other activity, the procurement of the appropriate PCE, and the choice of the proper PCE for a specific hazard or activity at an emergency incident.

3.3.14* Self-Contained Breathing Apparatus (SCBA). An atmosphere-supplying respirator that supplies a respirable atmosphere to the user from a breathing air source that is independent of the ambient environment and designed to be carried by

the user. [See also 3.3.1, *Atmosphere-Supplying Respirator*; 3.3.3, *Combination SCBA/SAR*; and 3.3.16, *Supplied Air Respirator (SAR)*.]

3.3.15 Specified Service Life. Time, exposure event, or number of uses to which a compliant product or component is expected to remain functional.

3.3.16* Supplied Air Respirator (SAR). An atmosphere-supplying respirator, also known as an airline respirator, for which the source of breathing air is not designed to be carried by the user. [See also 3.3.1, *Atmosphere-Supplying Respirator*; 3.3.3, *Combination SCBA/SAR*; and 3.3.14, *Self-Contained Breathing Apparatus (SCBA)*.]

3.3.17 Technician. An individual qualified and authorized by the compliant product manufacturer to provide specified care and maintenance to the product and perform inspection, repair, and testing beyond the level classified as “user repair.”

Chapter 4 Program Component

4.1 General.

4.1.1 Emergency services organizations shall have a written respiratory protection program that addresses the respiratory protection for the members of that organization.

4.1.1.1 As part of the organization’s respiratory protection program, the organization shall develop, implement, and apply a program component for the selection, care, and maintenance of open-circuit SCBA used for respiratory protection by the members of the organization.

4.1.1.2 For fire departments’ respiratory protection programs specified in Section 7.9 of NFPA 1500, *Standard on Fire Department Occupational Safety and Health Program*, the organization shall develop, implement, and apply the program component for the selection, care, and maintenance of open-circuit SCBA used by the members of the organization in the performance of their assigned functions.

4.1.2 The program component shall have the following goals:

- (1) Provide SCBA that is suitable and appropriate for the intended use
- (2) Maintain SCBA in a safe, usable condition to provide the intended protection to the user
- (3) Remove from use any SCBA that could cause or contribute to user injury, illness, or death because of its condition
- (4) Recondition, repair, or retire such SCBA

4.1.3 The SCBA selection, care, and maintenance component of the organization’s respiratory protection program shall be in accordance with Section 4.3 of this chapter.

4.2 Hazards Involving SCBA.

4.2.1 As part of the respiratory protection program, the organization shall develop standard operating procedures (SOPs) for reporting hazards involving SCBA.

4.2.2 Hazards shall be considered a condition that results in exposing SCBA users to an immediately dangerous condition or a dangerous condition threatening life or bodily harm.

4.2.3 Where a specific hazard involving SCBA is identified, the organization’s SOPs shall cause the SCBA manufacturer to be promptly notified in writing of the specific condition(s) or cause, and the circumstances involved with the specific condition(s) or cause.

4.2.4 Copies of the notification to the SCBA manufacturer shall also be promptly supplied to the certification organization that certified the SCBA and to National Institute for Occupational Safety and Health National Personal Protective Technology Laboratory (NIOSH NPPTL).

4.3 SCBA Selection, Care, and Maintenance Program Component.

4.3.1 The organization shall develop written SOPs that shall identify and define the various parts of the organization’s respiratory protection program and the various roles and responsibilities of the organization and the members.

4.3.2 As part of the respiratory protection program, the organization shall develop SOPs for the handling and custody of SCBA that is removed from service due to the serious injury or fatality of the wearer.

4.3.3 As part of the respiratory protection program, the organization shall develop SOPs for minimizing exposure to contaminated SCBA.

4.3.3.1 The organization shall define what criteria determines when an SCBA is contaminated beyond the ability to remedy by cleaning and disinfecting in accordance with Section 6.1 of this standard.

4.3.3.2 The SOPs shall detail methods for proper disposal of such contaminated SCBA in accordance with 4.7.2.

4.3.3.3 As a minimum, SCBA that are known to be contaminated or are suspected of being contaminated shall be tagged out-of-service and shall be segregated from other equipment, personnel, and civilians.

4.3.3.4 The organization shall develop procedures to minimize the public’s risk of exposure to soiled or contaminated SCBA.

4.3.4 The portion of the respiratory protection program for selection of SCBA shall include the requirements specified in Chapter 5 of this standard.

4.3.5 The portion of the respiratory protection program for care of SCBA shall include the requirements specified in Chapter 6 of this standard.

4.3.6 The portion of the respiratory protection program for maintenance of SCBA shall include the requirements specified in Chapter 7 of this standard.

4.3.6.1 As part of the respiratory protection program for maintenance, the organization shall have written SCBA testing procedures utilizing a breathing machine that meets the requirements of 7.5.5 and 7.5.6.

4.3.6.2 As part of the respiratory protection program for maintenance, the SCBA testing procedures shall include but not be limited to the following:

- (1) Administration
- (2) Testing protocol
- (3) Training in use of the breathing machine
- (4) Calibration of the breathing machine
- (5) Test technician authorization
- (6) Record keeping
- (7) Test scheduling
- (8) Evaluation of the effectiveness of the program

4.3.6.3 As part of the respiratory protection program for maintenance, the organization shall develop SOPs for the frequency of technician inspection and testing of SCBA.

