

Comparison of Respiratory Protection for TB Standard (29 CFR 1910.139) with 29 CFR 1910.134

This following tables compare the language of the prior respiratory protection standard with the wording of the revised standard. The tables **are organized according to the paragraph sequencing of the old standard**. Therefore, the paragraphs in the new standard will at times appear out of sequence, in order to pair them correctly with the earlier language. The entire text for both standards, except for definitions and the appendices, appears on these tables. These tables will print on standard 8 ½ x 11 paper.

<u>Applicability, Permissible Practice, & Definitions</u>			
<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
	[Applied in General Industry with other regulations in Shipyards (1915.154), Marine Terminals (1917.92), Longshoring (1918.102), and Construction (1926.103).]	intro	This section applies to General Industry (part 1910), Shipyards (part 1915), Marine Terminals (part 1917), Longshoring (part 1918), and Construction (part 1926).
(a)(1)	In the control of those occupational diseases caused by breathing air contaminated with harmful dusts, fogs, fumes, mists, gases, smokes, sprays, or vapors, the primary objective shall be to prevent atmospheric contamination. This shall be accomplished as far as feasible by accepted engineering control measures (for example, enclosure or confinement of the operation, general and local ventilation, and substitution of less toxic materials). When effective engineering controls are not feasible, or while they are being instituted, appropriate respirators shall be used pursuant to this section.	(a)(1)	Language unchanged

Applicability, Permissible Practice, & Definitions

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(a)(2)	Respirators shall be provided by the employer when such equipment is necessary to protect the health of the employee. The employer shall provide the respirators which are applicable and suitable for the purpose intended. The employer shall be responsible for the establishment and maintenance of a respiratory protection program which shall include the requirements outlined in paragraph (b) of this section.	(a)(2)	Language unchanged, except reference to "paragraph (b)" is now "paragraph (c)"
(a)(3)	The employee shall use the provided respiratory protection in accordance with instructions and training received.	--	[The revised standard does not establish any requirements for employees, although paragraph (l) does require the employer to ensure that the program is properly implemented.]

Applicability, Permissible Practice, & Definitions

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	Nothing Comparable	(b)	<p>Definitions. The following definitions are important terms used in the respiratory protection standard in this section [text of definition is omitted, but defined terms are listed below].</p> <ul style="list-style-type: none"> Air-purifying respirator Assigned protection factor (APF) [Reserved] Atmosphere-supplying respirator Canister or cartridge Demand respirator Emergency situation Employee exposure End-of-service-life indicator (ESLI) Escape-only respirator Filter or air purifying element Filtering facepiece (dust mask) Fit factor Fit test Helmet High efficiency particulate air (HEPA) filter Hood Immediately dangerous to life or health (IDLH) Interior structural firefighting Loose-fitting facepiece Maximum use concentration (MUC) [Reserved] Negative pressure respirator (tight fitting) Oxygen deficient atmosphere Physician or other licensed health care professional (PLHCP) Positive pressure respirator Powered air-purifying respirator (PAPR) Pressure demand respirator Qualitative fit test (QLFT) Quantitative fit test (QNFT) Respiratory inlet covering Self-contained breathing apparatus (SCBA) Service life Supplied-air respirator (SAR) or airline respirator Tight-fitting facepiece

Respiratory Protection Program Requirements

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(b)	Requirements for a minimal acceptable program	(c)	Respiratory protection program. This paragraph requires the employer to develop and implement a written respiratory protection program with required worksite-specific procedures and elements for required respirator use. The program must be administered by a suitably trained program administrator. In addition, certain program elements may be required for voluntary use to prevent potential hazards associated with the use of the respirator. The Small Entity Compliance Guide contains criteria for the selection of a program administrator and a sample program that meets the requirements of this paragraph. Copies of the Small Entity Compliance Guide will be available on or about April 8, 1998 from the Occupational Safety and Health Administration's Office of Publications, Room N 3101, 200 Constitution Avenue, NW, Washington, DC, 20210 (202-219-4667).
(b)(1) (b)(2)	Written standard operating procedures governing the selection and use of respirators shall be established. Respirators shall be selected on the basis of hazards to which the worker is exposed.	(c)(1) (c)(1)(i) (c)(1)(iv)	In any workplace where respirators are necessary to protect the health of the employee or whenever respirators are required by the employer, the employer shall establish and implement a written respiratory protection program with worksite-specific procedures. The program shall be updated as necessary to reflect those changes in workplace conditions that affect respirator use. The employer shall include in the program the following provisions of this section, as applicable: Procedures for selecting respirators for use in the workplace; [See also paragraph (d) - Respirator selection] Procedures for proper use of respirators in routine and reasonably foreseeable emergency situations; [See also paragraph (g) - Respirator use]
(b)(3)	The user shall be instructed and trained in the proper use of respirators and their limitations.	(c)(1)(vii) (c)(1)(viii)	Training of employees in the respiratory hazards to which they are potentially exposed during routine and emergency situations Training of employees in the proper use of respirators, including putting on and removing them, any limitations on their use, and their maintenance; and [See also paragraph (k) - Training & information]
--	[Nothing comparable as a program requirement, although (e)(5) requires that employees have the opportunity to have fit testing and to receive fitting instruction.]	(c)(1)(iii)	Fit testing procedures for tight-fitting respirators; [See also paragraph (f) - Fit testing]
(b)(4)	[Reserved]	--	--

Respiratory Protection Program Requirements

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(b)(5)-(7)	<p>(5) Respirators shall be regularly cleaned and disinfected. Those used by more than one worker shall be thoroughly cleaned and disinfected after each use.</p> <p>(6) Respirators shall be stored in a convenient, clean, and sanitary location.</p> <p>(7) Respirators used routinely shall be inspected during cleaning. Worn or deteriorated parts shall be replaced. Respirators for emergency use such as self-contained devices shall be thoroughly inspected at least once a month and after each use.</p>	<p>(c)(1)(v)</p> <p>(c)(1)(vi)</p>	<p>Procedures and schedules for cleaning, disinfecting, storing, inspecting, repairing, discarding, and otherwise maintaining respirators;</p> <p>Procedures to ensure adequate air quality, quantity, and flow of breathing air for atmosphere-supplying respirators;</p> <p>[See also details in paragraph (h)- Maintenance]</p>
(b)(8)	<p>Appropriate surveillance of work area conditions and degree of employee exposure or stress shall be maintained.</p>	(g)(2)(i)	<p>Appropriate surveillance shall be maintained of work area conditions and degree of employee exposure or stress....[See continuation of requirement in table below on Respirator Use]</p>
(b)(9)	<p>There shall be regular inspection and evaluation to determine the continued effectiveness of the program.</p>	(c)(1)(ix)	<p>Procedures for regularly evaluating the effectiveness of the program.</p> <p>[See also details in paragraph (l)- Program evaluation]</p>
(b)(10)	<p>Persons should not be assigned to tasks requiring use of respirators unless it has been determined that they are physically able to perform the work and use the equipment. The local physician shall determine what health and physical conditions are pertinent. The respirator user's medical status should be reviewed periodically (for instance, annually).</p>	(c)(1)(ii)	<p>Medical evaluations of employees</p> <p>[See also paragraph (e)- Medical evaluations & Appendix C- Medical evaluation]</p>
(b)(11)	<p>Respirators shall be selected from among those jointly approved by the Mine Safety and Health Administration and the National Institute for Occupational Safety and Health under the provisions of 30 CFR part 11.</p>	(d)(1)(ii)	<p>The employer shall select a NIOSH-certified respirator. The respirator shall be used in compliance with the conditions of its certification.</p>

Respiratory Protection Program Requirements

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	Nothing comparable	(c)(2)(i)-(ii)	<p>(2) Where respirator use is not required:</p> <p>(i) An employer may provide respirators at the request of employees or permit employees to use their own respirators, if the employer determines that such respirator use will not in itself create a hazard. If the employer determines that any voluntary respirator use is permissible, the employer shall provide the respirator users with the information contained in Appendix D to this section ("Information for Employees Using Respirators When Not Required Under the Standard"); and</p> <p>(ii) In addition, the employer must establish and implement those elements of a written respiratory protection program necessary to ensure that any employee using a respirator voluntarily is medically able to use that respirator, and that the respirator is cleaned, stored, and maintained so that its use does not present a health hazard to the user. Exception: Employers are not required to include in a written respiratory protection program those employees whose only use of respirators involves the voluntary use of filtering facepieces (dust masks).</p> <p>[See Appendix D- Voluntary respirator use program]</p>
	Nothing comparable	(c)(4)	The employer shall provide respirators, training, and medical evaluations at no cost to the employee.

Respirator Selection

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(c)	Selection of respirators. Proper selection of respirators shall be made according to the guidance of American National Standard Practices for Respiratory Protection Z88.2-1969.	(d) (d)(1)(i) (d)(1)(iii) (d)(1)(iv)	Selection of respirators. This paragraph requires the employer to evaluate respiratory hazard(s) in the workplace, identify relevant workplace and user factors, and base respirator selection on these factors. The paragraph also specifies appropriately protective respirators for use in IDLH atmospheres, and limits the selection and use of air-purifying respirators. The employer shall select and provide an appropriate respirator based on the respiratory hazard(s) to which the worker is exposed and workplace and user factors that affect respirator performance and reliability. The employer shall identify and evaluate the respiratory hazard(s) in the workplace; this evaluation shall include a reasonable estimate of employee exposures to respiratory hazard(s) and an identification of the contaminant's chemical state and physical form. Where the employer cannot identify or reasonably estimate the employee exposure, the employer shall consider the atmosphere to be IDLH. The employer shall select respirators from a sufficient number of respirator models and sizes so that the respirator is acceptable to, and correctly fits, the user.

Respirator Selection

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	<p>Nothing comparable</p> <p>[Respirators for dangerous atmosphere are addressed in paragraph (e), "Use of respirators." Comparable language in new standard is paired with it below.]</p>	(d)(3)(i)-(iii)	<p>Respirators for atmospheres that are not IDLH.</p> <p>(i) The employer shall provide a respirator that is adequate to protect the health of the employee and ensure compliance with all other OSHA statutory and regulatory requirements, under routine and reasonably foreseeable emergency situations.</p> <p>(A) Assigned Protection Factors (APFs) [Reserved] (B) Maximum Use Concentration (MUC) [Reserved]</p> <p>(ii) The respirator selected shall be appropriate for the chemical state and physical form of the contaminant.</p> <p>(iii) For protection against gases and vapors, the employer shall provide:</p> <p>(A) An atmosphere-supplying respirator, or (B) An air-purifying respirator, provided that:</p> <p>(1) The respirator is equipped with an end-of-service-life indicator (ESLI) certified by NIOSH for the contaminant; or (2) If there is no ESLI appropriate for conditions in the employer's workplace, the employer implements a change schedule for canisters and cartridges that is based on objective information or data that will ensure that canisters and cartridges are changed before the end of their service life. The employer shall describe in the respirator program the information and data relied upon and the basis for the canister and cartridge change schedule and the basis for reliance on the data.</p> <p>(iv) For protection against particulates, the employer shall provide:</p> <p>(A) An atmosphere-supplying respirator; or (B) An air-purifying respirator equipped with a filter certified by NIOSH under 30 CFR part 11 as a high efficiency particulate air (HEPA) filter, or an air-purifying respirator equipped with a filter certified for particulates by NIOSH under 42 CFR part 84; or (C) For contaminants consisting primarily of particles with mass median aerodynamic diameters (MMAD) of at least 2 micrometers, an air-purifying respirator equipped with any filter certified for particulates by NIOSH.</p>
--	Nothing comparable	Table I	TABLE I.—Assigned Protection Factors [Reserved]

Air Quality

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(d)	Air quality.	(i)	Breathing air quality and use. This paragraph requires the employer to provide employees using atmosphere-supplying respirators (supplied-air and SCBA) with breathing gases of high purity.
(d)(1)	Compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration shall be of high purity. Oxygen shall meet the requirements of the United States Pharmacopoeia for medical or breathing oxygen. Breathing air shall meet at least the requirements of the specification for Grade D breathing air as described in Compressed Gas Association Commodity Specification G-7.1-1966. Compressed oxygen shall not be used in supplied-air respirators or in open circuit self-contained breathing apparatus that have previously used compressed air. Oxygen must never be used with air line respirators.	(i)(1)(i-ii)	(1) The employer shall ensure that compressed air, compressed oxygen, liquid air, and liquid oxygen used for respiration accords with the following specifications: (i) Compressed and liquid oxygen shall meet the United States Pharmacopoeia requirements for medical or breathing oxygen; and (ii) Compressed breathing air shall meet at least the requirements for Grade D breathing air described in ANSI/Compressed Gas Association Commodity Specification for Air, G-7.1-1989, to include: (A) Oxygen content (v/v) of 19.5–23.5%; (B) Hydrocarbon (condensed) content of 5 milligrams per cubic meter of air or less; (C) Carbon monoxide (CO) content of 10 ppm or less; (D) Carbon dioxide content of 1,000 ppm or less; and (E) Lack of noticeable odor.
		(i)(2)	The employer shall ensure that compressed oxygen is not used in atmosphere-supplying respirators that have previously used compressed air.
		(i)(3)	The employer shall ensure that oxygen concentrations greater than 23.5% are used only in equipment designed for oxygen service or distribution.
		(i)(4)(ii-iii)	(4) The employer shall ensure that cylinders used to supply breathing air to respirators meet the following requirements: (ii) Cylinders of purchased breathing air have a certificate of analysis from the supplier that the breathing air meets the requirements for Grade D breathing air; and (iii) The moisture content in the cylinder does not exceed a dew point of -50 °F (-45.6 °C) at 1 atmosphere pressure.
(d)(2)(i)	Cylinders shall be tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR Part 178).	(i)(4)(i)	(4) The employer shall ensure that cylinders used to supply breathing air to respirators meet the following requirements: (i) Cylinders are tested and maintained as prescribed in the Shipping Container Specification Regulations of the Department of Transportation (49 CFR part 173 and part 178);

Air Quality

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(d)(2)(ii)	<p>The compressor for supplying air shall be equipped with necessary safety and standby devices. A breathing air-type compressor shall be used. Compressors shall be constructed and situated so as to avoid entry of contaminated air into the system and suitable in-line air purifying sorbent beds and filters installed to further assure breathing air quality. A receiver of sufficient capacity to enable the respirator wearer to escape from a contaminated atmosphere in event of compressor failure, and alarms to indicate compressor failure and overheating shall be installed in the system. If an oil-lubricated compressor is used, it shall have a high-temperature or carbon monoxide alarm, or both. If only a high-temperature alarm is used, the air from the compressor shall be frequently tested for carbon monoxide to insure that it meets the specifications in paragraph (d)(1) of this section.</p>	<p>(i)(5)(i)-(iv)</p> <p>(i)(6)</p> <p>(i)(7)</p>	<p>(5) The employer shall ensure that compressors used to supply breathing air to respirators are constructed and situated so as to:</p> <p>(i) Prevent entry of contaminated air into the air-supply system;</p> <p>(ii) Minimize moisture content so that the dew point at 1 atmosphere pressure is 10 degrees F (5.56 °C) below the ambient temperature;</p> <p>(iii) Have suitable in-line air-purifying sorbent beds and filters to further ensure breathing air quality. Sorbent beds and filters shall be maintained and replaced or refurbished periodically following the manufacturer's instructions.</p> <p>(iv) Have a tag containing the most recent change date and the signature of the person authorized by the employer to perform the change. The tag shall be maintained at the compressor.</p> <p>For compressors that are not oil-lubricated, the employer shall ensure that carbon monoxide levels in the breathing air do not exceed 10 ppm.</p> <p>For oil-lubricated compressors, the employer shall use a high-temperature or carbon monoxide alarm, or both, to monitor carbon monoxide levels. If only high-temperature alarms are used, the air supply shall be monitored at intervals sufficient to prevent carbon monoxide in the breathing air from exceeding 10 ppm.</p>
(d)(3)	<p>Air line couplings shall be incompatible with outlets for other gas systems to prevent inadvertent servicing of air line respirators with nonrespirable gases or oxygen.</p>	<p>(i)(8)</p>	<p>The employer shall ensure that breathing air couplings are incompatible with outlets for nonrespirable worksite air or other gas systems. No asphyxiating substance shall be introduced into breathing air lines.</p>
(d)(4)	<p>Breathing gas containers shall be marked in accordance with American National Standard Method of Marking Portable Compressed Gas Containers to Identify the Material Contained, Z48.1-1954; Federal Specification BB-A-1034a, June 21, 1968, Air, Compressed for Breathing Purposes; or Interim Federal Specification GG-B-00675b, April 27, 1965, Breathing Apparatus, Self-Contained.</p>	<p>(i)(9)</p>	<p>The employer shall use breathing gas containers marked in accordance with the NIOSH respirator certification standard, 42 CFR part 84.</p>

Medical Evaluation

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	[The old Respiratory protection standard did not address medical evaluation in detail, but did address "fit for duty" and medical status evaluations by physicians in paragraph (b)(10). See above.]	(e) (e)(1)	<p>Medical evaluation Using a respirator may place a physiological burden on employees that varies with the type of respirator worn, the job and workplace conditions in which the respirator is used, and the medical status of the employee. Accordingly, this paragraph specifies the minimum requirements for medical evaluation that employers must implement to determine the employee's ability to use a respirator.</p> <p>General. The employer shall provide a medical evaluation to determine the employee's ability to use a respirator, before the employee is fit tested or required to use the respirator in the workplace. The employer may discontinue an employee's medical evaluations when the employee is no longer required to use a respirator.</p>
--	Nothing comparable	(e)(2)(i)-(ii) (e)(3)(i)-(ii)	<p>(2) Medical evaluation procedures. (i) The employer shall identify a physician or other licensed health care professional (PLHCP) to perform medical evaluations using a medical questionnaire or an initial medical examination that obtains the same information as the medical questionnaire. (ii) The medical evaluation shall obtain the information requested by the questionnaire in Sections 1 and 2, Part A of Appendix C of this section.</p> <p>(3) Follow-up medical examination. (i) The employer shall ensure that a follow-up medical examination is provided for an employee who gives a positive response to any question among questions 1 through 8 in Section 2, Part A of Appendix C or whose initial medical examination demonstrates the need for a follow-up medical examination. (ii) The follow-up medical examination shall include any medical tests, consultations, or diagnostic procedures that the PLHCP deems necessary to make a final determination.</p>

Fit Testing

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	[The old standard did not address fit testing in detail, but paragraph (e)(5)(i)-(iii) (see below) did require that training provide the opportunity to respirator wearers to have respirators properly fitted; that workers receive fitting instructions including demonstrations and practice; the facepiece be fit checked each time it is donned; qualified individuals fit facepiece and lenses to ensure good vision, comfort, and a gas-tight seal when a worker must wear corrective lenses as part of the facepiece; and when corrective spectacles or goggles are worn, they do not affect the fit of the facepiece.]	(f) (f)(1) (f)(2) (f)(3) (f)(4) (f)(5) (f)(6) (f)(7)	<p>Fit testing. This paragraph requires that, before an employee may be required to use any respirator with a negative or positive pressure tight-fitting facepiece, the employee must be fit tested with the same make, model, style, and size of respirator that will be used. This paragraph specifies the kinds of fit tests allowed, the procedures for conducting them, and how the results of the fit tests must be used.</p> <p>The employer shall ensure that employees using a tight-fitting facepiece respirator pass an appropriate qualitative fit test (QLFT) or quantitative fit test (QNFT) as stated in this paragraph.</p> <p>The employer shall ensure that an employee using a tight-fitting facepiece respirator is fit tested prior to initial use of the respirator, whenever a different respirator facepiece (size, style, model or make) is used, and at least annually thereafter.</p> <p>The employer shall conduct an additional fit test whenever the employee reports, or the employer, PLHCP, supervisor, or program administrator makes visual observations of, changes in the employee's physical condition that could affect respirator fit. Such conditions include, but are not limited to, facial scarring, dental changes, cosmetic surgery, or an obvious change in body weight.</p> <p>If after passing a QLFT or QNFT, the employee subsequently notifies the employer, program administrator, supervisor, or PLHCP that the fit of the respirator is unacceptable, the employee shall be given a reasonable opportunity to select a different respirator facepiece and to be retested.</p> <p>The fit test shall be administered using an OSHA-accepted QLFT or QNFT protocol. The OSHA-accepted QLFT and QNFT protocols and procedures are contained in Appendix A of this section.</p> <p>QLFT may only be used to fit test negative pressure air-purifying respirators that must achieve a fit factor of 100 or less.</p> <p>If the fit factor, as determined through an OSHA-accepted QNFT protocol, is equal to or greater than 100 for tight-fitting half facepieces, or equal to or greater than 500 for tight-fitting full facepieces, the QNFT has been passed with that respirator.</p>

Fit Testing

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	Nothing comparable	(f)(8)(i)-(iii)	<p>(8) Fit testing of tight-fitting atmosphere-supplying respirators and tight-fitting powered air-purifying respirators shall be accomplished by performing quantitative or qualitative fit testing in the negative pressure mode, regardless of the mode of operation (negative or positive pressure) that is used for respiratory protection.</p> <p>(i) Qualitative fit testing of these respirators shall be accomplished by temporarily converting the respirator user's actual facepiece into a negative pressure respirator with appropriate filters, or by using an identical negative pressure air-purifying respirator facepiece with the same sealing surfaces as a surrogate for the atmosphere-supplying or powered air-purifying respirator facepiece.</p> <p>(ii) Quantitative fit testing of these respirators shall be accomplished by modifying the facepiece to allow sampling inside the facepiece in the breathing zone of the user, midway between the nose and mouth. This requirement shall be accomplished by installing a permanent sampling probe onto a surrogate facepiece, or by using a sampling adapter designed to temporarily provide a means of sampling air from inside the facepiece.</p> <p>(iii) Any modifications to the respirator facepiece for fit testing shall be completely removed, and the facepiece restored to NIOSH-approved configuration, before that facepiece can be used in the workplace.</p> <p>[See Appendix A]</p>

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(e) (e)(1)	Use of respirators. Standard procedures shall be developed for respirator use. These should include all information and guidance necessary for their proper selection, use, and care. Possible emergency and routine uses of respirators should be anticipated and planned for.	(g)	Use of respirators. This paragraph requires employers to establish and implement procedures for the proper use of respirators. These requirements include prohibiting conditions that may result in facepiece seal leakage, preventing employees from removing respirators in hazardous environments, taking actions to ensure continued effective respirator operation throughout the work shift, and establishing procedures for the use of respirators in IDLH atmospheres or in interior structural firefighting situations.

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(e)(3)(i)-(iii)	<p>(i) In areas where the wearer, with failure of the respirator, could be overcome by a toxic or oxygen-deficient atmosphere, at least one additional man shall be present. Communications (visual, voice, or signal line) shall be maintained between both or all individuals present. Planning shall be such that one individual will be unaffected by any likely incident and have the proper rescue equipment to be able to assist the other(s) in case of emergency.</p> <p>(ii) When self-contained breathing apparatus or hose masks with blowers are used in atmospheres immediately dangerous to life or health, standby men must be present with suitable rescue equipment.</p> <p>(iii) Persons using air line respirators in atmospheres immediately hazardous to life or health shall be equipped with safety harnesses and safety lines for lifting or removing persons from hazardous atmospheres or other and equivalent provisions for the rescue of persons from hazardous atmospheres shall be used. A standby man or men with suitable self-contained breathing apparatus shall be at the nearest fresh air base for emergency rescue.</p>	(g)(3)(i)-(vi)	<p>(3) Procedures for IDLH atmospheres. For all IDLH atmospheres, the employer shall ensure that:</p> <p>(i) One employee or, when needed, more than one employee is located outside the IDLH atmosphere;</p> <p>(ii) Visual, voice, or signal line communication is maintained between the employee(s) in the IDLH atmosphere and the employee(s) located outside the IDLH atmosphere;</p> <p>(iii) The employee(s) located outside the IDLH atmosphere are trained and equipped to provide effective emergency rescue;</p> <p>(iv) The employer or designee is notified before the employee(s) located outside the IDLH atmosphere enter the IDLH atmosphere to provide emergency rescue;</p> <p>(v) The employer or designee authorized to do so by the employer, once notified, provides necessary assistance appropriate to the situation;</p> <p>(vi) Employee(s) located outside the IDLH atmospheres are equipped with:</p> <p>(A) Pressure demand or other positive pressure SCBAs, or a pressure demand or other positive pressure supplied-air respirator with auxiliary SCBA; and either</p> <p>(B) Appropriate retrieval equipment for removing the employee(s) who enter(s) these hazardous atmospheres where retrieval equipment would contribute to the rescue of the employee(s) and would not increase the overall risk resulting from entry; or</p> <p>(C) Equivalent means for rescue where retrieval equipment is not required under paragraph (g)(3)(vi)(B).</p>

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
--	Nothing comparable.	(g)(4)(i)-(iii)	<p>(4) Procedures for interior structural firefighting. In addition to the requirements set forth under paragraph (g)(3), in interior structural fires, the employer shall ensure that:</p> <p>(i) At least two employees enter the IDLH atmosphere and remain in visual or voice contact with one another at all times;</p> <p>(ii) At least two employees are located outside the IDLH atmosphere; and</p> <p>(iii) All employees engaged in interior structural firefighting use SCBAs.</p> <p>Note 1 to paragraph (g): One of the two individuals located outside the IDLH atmosphere may be assigned to an additional role, such as incident commander in charge of the emergency or safety officer, so long as this individual is able to perform assistance or rescue activities without jeopardizing the safety or health of any firefighter working at the incident.</p> <p>Note 2 to paragraph (g): Nothing in this section is meant to preclude firefighters from performing emergency rescue activities before an entire team has assembled.</p>

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(e)(5)	For safe use of any respirator, it is essential that the user be properly instructed in its selection, use, and maintenance. Both supervisors and workers shall be so instructed by competent persons. Training shall provide the men an opportunity to handle the respirator, have it fitted properly, test its face-piece-to-face seal, wear it in normal air for a long familiarity period, and, finally, to wear it in a test atmosphere.	(k)	(k) Training and information. This paragraph requires the employer to provide effective training to employees who are required to use respirators. The training must be comprehensive, understandable, and recur annually, and more often if necessary. This paragraph also requires the employer to provide the basic information on respirators in Appendix D of this section to employees who wear respirators when not required by this section or by the employer to do so.
(e)(5)(i)	Every respirator wearer shall receive fitting instructions including demonstrations and practice in how the respirator should be worn, how to adjust it, and how to determine if it fits properly. (continued below)	(k)(1)(i)-(vii)	(1) The employer shall ensure that each employee can demonstrate knowledge of at least the following: (i) Why the respirator is necessary and how improper fit, usage, or maintenance can compromise the protective effect of the respirator; (ii) What the limitations and capabilities of the respirator are; (iii) How to use the respirator effectively in emergency situations, including situations in which the respirator malfunctions; (iv) How to inspect, put on and remove, use, and check the seals of the respirator; (v) What the procedures are for maintenance and storage of the respirator; (vi) How to recognize medical signs and symptoms that may limit or prevent the effective use of respirators; and (vii) The general requirements of this section.
		(k)(2)	The training shall be conducted in a manner that is understandable to the employee.
		(k)(3)	The employer shall provide the training prior to requiring the employee to use a respirator in the workplace.
		(k)(4)	An employer who is able to demonstrate that a new employee has received training within the last 12 months that addresses the elements specified in paragraph (k)(1)(i) through (vii) is not required to repeat such training provided that, as required by paragraph (k)(1), the employee can demonstrate knowledge of those element(s). Previous training not repeated initially by the employer must be provided no later than 12 months from the date of the previous training.

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(f)(2)(i)-(iv)	<p>(i) All respirators shall be inspected routinely before and after each use. A respirator that is not routinely used but is kept ready for emergency use shall be inspected after each use and at least monthly to assure that it is in satisfactory working condition.</p> <p>(ii) Self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be fully charged according to the manufacturer's instructions. It shall be determined that the regulator and warning devices function properly.</p> <p>(iii) Respirator inspection shall include a check of the tightness of connections and the condition of the facepiece, headbands, valves, connecting tube, and canisters. Rubber or elastomer parts shall be inspected for pliability and signs of deterioration. Stretching and manipulating rubber or elastomer parts with a massaging action will keep them pliable and flexible and prevent them from taking a set during storage.</p> <p>(iv) A record shall be kept of inspection dates and findings for respirators maintained for emergency use.</p>	(h)(3)(i)-(iv)	<p>(3) Inspection.</p> <p>(i) The employer shall ensure that respirators are inspected as follows:</p> <p>(A) All respirators used in routine situations shall be inspected before each use and during cleaning;</p> <p>(B) All respirators maintained for use in emergency situations shall be inspected at least monthly and in accordance with the manufacturer's recommendations, and shall be checked for proper function before and after each use; and</p> <p>(C) Emergency escape-only respirators shall be inspected before being carried into the workplace for use.</p> <p>(ii) The employer shall ensure that respirator inspections include the following:</p> <p>(A) A check of respirator function, tightness of connections, and the condition of the various parts including, but not limited to, the facepiece, head straps, valves, connecting tube, and cartridges, canisters or filters; and</p> <p>(B) A check of elastomeric parts for pliability and signs of deterioration.</p> <p>(iii) In addition to the requirements of paragraphs (h)(3)(i) and (ii) of this section, self-contained breathing apparatus shall be inspected monthly. Air and oxygen cylinders shall be maintained in a fully charged state and shall be recharged when the pressure falls to 90% of the manufacturer's recommended pressure level. The employer shall determine that the regulator and warning devices function properly.</p> <p>(iv) For respirators maintained for emergency use, the employer shall:</p> <p>(A) Certify the respirator by documenting the date the inspection was performed, the name (or signature) of the person who made the inspection, the findings, required remedial action, and a serial number or other means of identifying the inspected respirator; and</p> <p>(B) Provide this information on a tag or label that is attached to the storage compartment for the respirator, is kept with the respirator, or is included in inspection reports stored as paper or electronic files. This information shall be maintained until replaced following a subsequent certification.</p>

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(f)(3)	Routinely used respirators shall be collected, cleaned, and disinfected as frequently as necessary to insure that proper protection is provided for the wearer. Respirators maintained for emergency use shall be cleaned and disinfected after each use.	(h)(1)(i)-(iv)	<p>(1) Cleaning and disinfecting. The employer shall provide each respirator user with a respirator that is clean, sanitary, and in good working order. The employer shall ensure that respirators are cleaned and disinfected using the procedures in Appendix B–2 of this section, or procedures recommended by the respirator manufacturer, provided that such procedures are of equivalent effectiveness. The respirators shall be cleaned and disinfected at the following intervals:</p> <p>(i) Respirators issued for the exclusive use of an employee shall be cleaned and disinfected as often as necessary to be maintained in a sanitary condition;</p> <p>(ii) Respirators issued to more than one employee shall be cleaned and disinfected before being worn by different individuals;</p> <p>(iii) Respirators maintained for emergency use shall be cleaned and disinfected after each use; and</p> <p>(iv) Respirators used in fit testing and training shall be cleaned and disinfected after each use.</p> <p>[See Appendix B-2]</p>
(f)(4)	Replacement or repairs shall be done only by experienced persons with parts designed for the respirator. No attempt shall be made to replace components or to make adjustment or repairs beyond the manufacturer's recommendations. Reducing or admission valves or regulators shall be returned to the manufacturer or to a trained technician for adjustment or repair.	(h)(4)(i)-(iii)	<p>(4) Repairs. The employer shall ensure that respirators that fail an inspection or are otherwise found to be defective are removed from service, and are discarded or repaired or adjusted in accordance with the following procedures.</p> <p>(i) Repairs or adjustments to respirators are to be made only by persons appropriately trained to perform such operations and shall use only the respirator manufacturer's NIOSH-approved parts designed for the respirator;</p> <p>(ii) Repairs shall be made according to the manufacturer's recommendations and specifications for the type and extent of repairs to be performed; and</p> <p>(iii) Reducing and admission valves, regulators, and alarms shall be adjusted or repaired only by the manufacturer or a technician trained by the manufacturer.</p>

Use of Respirators

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(f)(5)(i)-(iii)	<p>(i) After inspection, cleaning, and necessary repair, respirators shall be stored to protect against dust, sunlight, heat, extreme cold, excessive moisture, or damaging chemicals. Respirators placed at stations and work areas for emergency use should be quickly accessible at all times and should be stored in compartments built for the purpose. The compartments should be clearly marked. Routinely used respirators, such as dust respirators, may be placed in plastic bags. Respirators should not be stored in such places as lockers or tool boxes unless they are in carrying cases or cartons.</p> <p>(ii) Respirators should be packed or stored so that the facepiece and exhalation valve will rest in a normal position and function will not be impaired by the elastomer setting in an abnormal position.</p> <p>(iii) Instructions for proper storage of emergency respirators, such as gas masks and self-contained breathing apparatus, are found in "use and care" instructions usually mounted inside the carrying case lid.</p>	(h)(2)(i)-(ii)	<p>(2) Storage. The employer shall ensure that respirators are stored as follows:</p> <p>(i) All respirators shall be stored to protect them from damage, contamination, dust, sunlight, extreme temperatures, excessive moisture, and damaging chemicals, and they shall be packed or stored to prevent deformation of the facepiece and exhalation valve.</p> <p>(ii) In addition to the requirements of paragraph (h)(2)(i) of this section, emergency respirators shall be:</p> <p>(A) Kept accessible to the work area;</p> <p>(B) Stored in compartments or in covers that are clearly marked as containing emergency respirators; and</p> <p>(C) Stored in accordance with any applicable manufacturer instructions.</p>

Identification of filters, cartridges, and canisters

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
<p>(g)</p> <p>(g)(1)</p> <p>(g)(2)</p> <p>(g)(3)(i)-(ii)</p>	<p>Identification of gas mask canisters.</p> <p>The primary means of identifying a gas mask canister shall be by means of properly worded labels. The secondary means of identifying a gas mask canister shall be by a color code.</p> <p>All who issue or use gas masks falling within the scope of this section shall see that all gas mask canisters purchased or used by them are properly labeled and colored in accordance with these requirements before they are placed in service and that the labels and colors are properly maintained at all times thereafter until the canisters have completely served their purpose.</p> <p>On each canister shall appear in bold letters the following:</p> <p>(i) Canister for _____ (Name for atmospheric contaminant) or Type N Gas Mask Canister</p> <p>(ii) In addition, essentially the following wording shall appear beneath the appropriate phrase on the canister label: "For respiratory protection in atmospheres containing not more than _____ percent by volume of _____." (Name of atmospheric contaminant)</p>	<p>(j)</p>	<p>Identification of filters, cartridges, and canisters. The employer shall ensure that all filters, cartridges and canisters used in the workplace are labeled and color coded with the NIOSH approval label and that the label is not removed and remains legible.</p>

Identification of filters, cartridges, and canisters

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
(g)(4)	<p>Canisters having a special high-efficiency filter for protection against radionuclides and other highly toxic particulates shall be labeled with a statement of the type and degree of protection afforded by the filter. The label shall be affixed to the neck end of, or to the gray stripe which is around and near the top of, the canister. The degree of protection shall be marked as the percent of penetration of the canister by a 0.3-micron-diameter dioctyl phthalate (DOP) smoke at a flow rate of 85 liters per minute.</p>		Nothing comparable
(g)(5)	<p>Each canister shall have a label warning that gas masks should be used only in atmospheres containing sufficient oxygen to support life (at least 16 percent by volume), since gas mask canisters are only designed to neutralize or remove contaminants from the air.</p>		
(g)(6)	<p>Each gas mask canister shall be painted a distinctive color or combination of colors indicated in Table I-1. All colors used shall be such that they are clearly identifiable by the user and clearly distinguishable from one another. The color coating used shall offer a high degree of resistance to chipping, scaling, peeling, blistering, fading, and the effects of the ordinary atmospheres to which they may be exposed under normal conditions of storage and use. Appropriately colored pressure sensitive tape may be used for the stripes.</p> <p>Table I-1</p>		

Record keeping

<u>Old .139</u>	<u>Old Language</u>	<u>New .134</u>	<u>New Language</u>
	Nothing comparable	(m)	Recordkeeping. This section requires the employer to establish and retain written information regarding medical evaluations, fit testing, and the respirator program. This information will facilitate employee involvement in the respirator program, assist the employer in auditing the adequacy of the program, and provide a record for compliance determinations by OSHA.
		(m)(1)	Medical evaluation. Records of medical evaluations required by this section must be retained and made available in accordance with 29 CFR 1910.1020.
		(m)(2)	Fit testing. (i) The employer shall establish a record of the qualitative and quantitative fit tests administered to an employee including: (A) The name or identification of the employee tested; (B) Type of fit test performed; (C) Specific make, model, style, and size of respirator tested; (D) Date of test; and (E) The pass/fail results for QLFTs or the fit factor and strip chart recording or other recording of the test results for QNFTs. (ii) Fit test records shall be retained for respirator users until the next fit test is administered.
		(m)(3)	A written copy of the current respirator program shall be retained by the employer.
		(m)(4)	Written materials required to be retained under this paragraph shall be made available upon request to affected employees and to the Assistant Secretary or designee for examination and copying.

Appendices

Old .139	<u>Old Language</u>	New .134	<u>New Language</u>
	Nothing comparable	Appen.A Appen. B-1 Appen. B-2 Appen. C Appen. D	Fit Testing Procedures (Mandatory) User Seal Check Procedures (Mandatory) Respirator Cleaning Procedures (Mandatory) OSHA Respirator Medical Evaluation Questionnaire (Mandatory) Information for Employees Using Respirators When Not Required Under the Standard (Non-Mandatory)