

**CHAPTER 100**

**SAFETY AND HEALTH STANDARDS  
FOR PUBLIC EMPLOYEES**

**Authority**

N.J.S.A. 34:1-20, 34:1A-3(c), and 34:6A-25 et seq., specifically 34:6A-30, 31 and 32.

**Source and Effective Date**

R.1994 d.492, effective August 26, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

**Executive Order No. 66(1978) Expiration Date**

Chapter 100, Safety and Health Standards for Public Employees, expires on August 26, 1999.

**Chapter Historical Note**

The original rules in Chapter 100, which were General Provisions of Title 12, Subtitle I, Bureau of Migrant Labor, were filed prior to September 1, 1969, and became effective on January 1, 1970. The original rules became ineffective on April 1, 1975 with the adoption of R.1975 d.101, which was filed and effective April 16, 1975. See: 7 N.J.R. 231(a). The Migrant Labor rules were repealed by R.1978 d.288, effective August 16, 1978. See: 10 N.J.R. 258(a), 10 N.J.R. 400(d). A new Chapter 100, Safety and Health Standards for Public Employees, was filed and became effective November 5, 1984 as R.1984 d.510. See: 16 N.J.R. 2057(a), 16 N.J.R. 3051(a).

Subchapter 12 was adopted as R.1986 d.285, and Subchapter 7 was recodified as Subchapter 17, effective July 21, 1986. See: 18 N.J.R. 811(b), 18 N.J.R. 1479(b). Subchapter 9 became effective September 19, 1988 as R.1988 d.451. See: 20 N.J.R. 1523(a), 20 N.J.R. 2391(a). Subchapter 11 became effective May 1, 1989 as R.1989 d.238. See: 21 N.J.R. 620(a), 21 N.J.R. 1144(a). Subchapter 8 was adopted as R.1989 d.357, effective July 3, 1989. See: 21 N.J.R. 1094(a), 21 N.J.R. 1829(b). Pursuant to Executive Order No. 66(1978), Chapter 100 was readopted as R.1989 d.536, effective September 22, 1989. See: 21 N.J.R. 2224(a), 21 N.J.R. 3299(b). Subchapter 10, Standards for Firefighters, was adopted as R.1993 d.28, effective January 4, 1993. See: 24 N.J.R. 73(a), 25 N.J.R. 180(b).

Pursuant to Executive Order No. 66(1978), Chapter 100 was readopted as R.1994 d.492. See: Source and Effective Date. See, also, section annotations.

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## SUBCHAPTER 1. GENERAL PROVISIONS

### 12:100-1.1 Title and citation

This chapter shall be known and may be cited as N.J.A.C. 12:100, Safety and Health Standards for Public Employees.

### 12:100-1.2 Authority

These rules are promulgated pursuant to the authority of the New Jersey Public Employees Organizational<sup>1</sup> Safety and Health Act, N.J.S.A. 34:6A-25 et seq.

<sup>1</sup> So in original. Probably should read "Occupational".

### 12:100-1.3 Purpose

The purpose of this chapter is to protect employees in the public sector by providing standards, which are at least as effective as the standards promulgated under Section 6 of the Federal Occupational Safety and Health Act of 1970, 29 USC 651 et seq.

### 12:100-1.4 Scope

This chapter shall apply to all employers, employees, and agencies subject to N.J.S.A. 34:6A-25 et seq., New Jersey Public Employees Occupational Safety and Health Act.

## Case Notes

OSHA standards adopted in New Jersey could be applicable to scaffold collapse incident or recognized as prevailing safety standards in community. *Sanna v. National Sponge Co.*, 209 N.J.Super. 60, 506 A.2d 1258 (App.Div.1986).

### 12:100-1.5 Documents referred to by reference

The availability of standards and publications referred to in this chapter is explained in N.J.A.C. 12:100-7.

### 12:100-1.6 Validity

Should any section, paragraph, sentence or word of this chapter be declared for any reason to be invalid, such decision shall not affect the remaining portions of this chapter.

## SUBCHAPTER 2. DEFINITIONS

### 12:100-2.1 Definitions

The following words and terms, when used in this chapter, shall have the following meanings, unless the context clearly indicates otherwise.

"Act" means the New Jersey Public Employees Occupational Safety and Health Act, N.J.S.A. 34:6A-25 et seq.

"Approved" means acceptable to the Commissioner of Labor.

"CFR" means Code of Federal Regulations.

"Commissioner" means the Commissioner of Labor or his designee.

"Division of Workplace Standards" means the Division of Workplace Standards of the New Jersey Department of Labor, CN 054, Trenton, New Jersey 08625-0054.

"Employee" means any public employee, any person holding a position by appointment or employment in the service of an "employer" as that term is used in the Act and shall include any individual whose work has ceased as a consequence of, or in connection with, any administrative or judicial action instituted under the Act; provided, however, that elected officials, members of boards and commissions and managerial executives as defined in the New Jersey Employer-Employee Relations Act, N.J.S.A. 34:13A-1 et seq. shall be excluded from the coverage of the Act.

"Employer" means public employer and shall include any person acting directly on behalf of, or with the knowledge and ratification of:

1. The State, or any department, division, bureau, board, council, agency or authority of the State, except any bi-state agency; or

2. Any county, municipality, or any department, division, bureau, board, council, agency or authority of any county or municipality, or of any school district or special purposes district created pursuant to law.

“N.J.A.C.” means New Jersey Administrative Code.

“N.J.S.A.” means New Jersey Statutes Annotated.

“Serious injury” means any injury which requires treatment beyond first aid.

“Shall” means a mandatory requirement.

Amended by R.1986 d.285, effective July 21, 1986.

See: 18 N.J.R. 811(b), 18 N.J.R. 1479(b).

The definition for “CFR” has been amended.

Amended by R.1987 d.439, effective November 2, 1987.

See: 19 N.J.R. 1533(a), 19 N.J.R. 2060(b).

Deleted text from CFR “in effect on . . .”.

### SUBCHAPTER 3. ADMINISTRATION

#### 12:100-3.1 Scope of subchapter

This subchapter shall apply to the administration of the safety and health standards mandated by this chapter.

#### 12:100-3.2 Compliance

(a) Every employer shall comply with the provisions of this chapter.

(b) Every employee shall comply with the provisions of this chapter as they pertain to him or her.

(c) When an employer has provided personal protection equipment in accordance with this chapter, the employee shall utilize such equipment when the hazard for which the equipment was provided exists.

(d) Every employer shall provide a reasonable safeguard against any recognized hazard which could cause serious injury or death to the employees.

(e) Every employer shall take all prudent measures to comply with written recommendations made by the commissioner, the Commissioner of Community Affairs or the Commissioner of Health to reduce the risk of exposure to unsafe or unhealthy conditions which have been shown to be detrimental to employee health or safety. This provision shall apply for hazards not specifically covered by a standard in this chapter or a standard referenced in this chapter.

#### 12:100-3.3 Interface of state agencies

(a) The New Jersey Department of Labor shall inspect under the provisions of this chapter where the provisions relate to safety issues in accordance with N.J.S.A. 34:6A-35.

(b) The New Jersey Department of Health shall inspect under the provisions of this chapter where the provisions relate to health issues in accordance with N.J.S.A. 34:6A-37 and 34:6A-38.

(c) The New Jersey Department of Community Affairs shall inspect under the provisions of this chapter where the provisions relate to building safety, structural safety, and fire safety in accordance with N.J.S.A. 34:6A-38.

(d) The provisions of (a) through (c) above shall not be construed to diminish the primary responsibility of the Commissioner of Labor for administering and enforcing the State plan in accordance with N.J.S.A. 34:6A-29.

### SUBCHAPTER 4. GENERAL STANDARDS

#### 12:100-4.1 Scope of subchapter; “employer” defined

(a) This subchapter shall apply to general industry safety and health standards adopted by reference.

(b) As used in this subchapter, the term employer shall mean public employer and shall not include any private employer performing under this subchapter on behalf of, or with the knowledge and ratification of, a public employer.

Amended by R.1993 d.184, effective May 3, 1993.

See: 25 N.J.R. 890(a), 25 N.J.R. 1882(a).

Revised heading; added (b).

#### 12:100-4.2 Adoption by reference

(a) The standards contained in 29 CFR Part 1910, General Industry Standards, with amendments published in the Federal Register through August 10, 1994 with certain exceptions noted in (b) below are adopted and are incorporated herein by reference as occupational safety and health standards for the protection of public employees engaged in general operations and shall include:

1. Subpart C—General Safety and Health Provisions;
2. Subpart D—Walking-Working Surfaces;
3. Subpart E—Means of Egress;
4. Subpart F—Powered Platforms, Man Lifts, and Vehicle-Mounted Work Platforms;
5. Subpart G—Occupational Health and Environmental Control;
6. Subpart H—Hazardous Materials;
7. Subpart I—Personal Protective Equipment;
8. Subpart J—General Environmental Controls;
9. Subpart K—Medical and First Aid;
10. Subpart L—Fire Protection except that:

i. Paragraph 1910.155(a) and Section 1910.156 are not adopted.

11. Subpart M—Compressed Gas and Compressed Air Equipment;

12. Subpart N—Materials Handling and Storage;

13. Subpart O—Machinery and Machine Guarding;

14. Subpart P—Hand and Portable Powered Tools and Other Hand-Held Equipment;

15. Subpart Q—Welding, Cutting, and Brazing;

16. Subpart R—Special Industries;

17. Subpart S—Electrical;

18. Subpart T—Commercial Diving Operations; and

19. Subpart Z—Toxic and Hazardous Substances.

i. The standards contained in Subpart Z of 29 CFR Part 1910 are adopted except that the following health standard is not adopted:

1. 1910.1200. Hazard communication.

(b) Only standards relating to employee safety and health (that is, substantive rules) are adopted by any incorporation by reference as prescribed in (a) above.

Amended by R.1986 d.285, effective July 21, 1986.

See: 18 N.J.R. 811(b), 18 N.J.R. 1479(b).

(a)18i added.

Amended by R.1987 d.241, effective June 15, 1987.

See: 19 N.J.R. 48(a), 19 N.J.R. 1098(a).

(a)9i added.

Amended by R.1987 d.425, effective October 19, 1987.

See: 19 N.J.R. 267(a), 19 N.J.R. 1909(a).

New (a)9 added; old 9–17 renumbered 10–18; old 18 repealed.

Amended by R.1987 d.439, effective November 2, 1987.

See: 19 N.J.R. 1533(a), 19 N.J.R. 2060(b).

Added text “in effect on December 19, 1986”.

Amended by R.1988 d.86, effective February 16, 1988.

See: 19 N.J.R. 2239(a), 20 N.J.R. 403(a).

Changed date from December 19, 1986 to September 11, 1987 and added (a)19.

Amended by R.1988 d.260, effective June 6, 1988.

See: 20 N.J.R. 726(a), 20 N.J.R. 1232(a).

Changed date for publication in the Federal Register from September 11, 1987 to December 31, 1987.

Amended by R.1988 d.436, effective September 6, 1988.

See: 20 N.J.R. 1334(a), 20 N.J.R. 2300(b).

Date changed from December 31, 1987 to April 6, 1988.

Amended by R.1989 d.82, effective February 6, 1989.

See: 20 N.J.R. 2995(a), 21 N.J.R. 299(b).

Date changed from April 6, 1988 to September 29, 1988.

Amended by R.1989 d.358, effective July 3, 1989.

See: 21 N.J.R. 1089(a), 21 N.J.R. 1829(a).

Date changed from September 29, 1988 to January 19, 1989, to include OSHA amendments to 29 CFR 1910 which were published in the Federal Register on January 19, 1989, and which include permissible exposure limits for airborne toxic and hazardous substances.

Amended by R.1989 d.476, effective September 5, 1989.

See: 21 N.J.R. 1646(a), 21 N.J.R. 2800(a).

Changes made to conform to the Code of Federal Regulations.

Amended by R.1993 d.28, effective January 4, 1993.

See: 24 N.J.R. 73(a), 25 N.J.R. 180(b).

Revised (a)10i.

Amended by R.1993 d.171, effective April 19, 1993.

See: 25 N.J.R. 455(a), 25 N.J.R. 1771(b).

Revised (a).

Amended by R.1993 d.184, effective May 3, 1993.

See: 25 N.J.R. 890(a), 25 N.J.R. 1882(a).

Revised (a).

Amended by R.1993 d.308, effective June 21, 1993.

See: 25 N.J.R. 455(a), 25 N.J.R. 2688(b).

Amended by R.1993 d.323, effective July 6, 1993.

See: 24 N.J.R. 3607(b), 25 N.J.R. 2894(a).

Administrative Correction.

See: 27 N.J.R. 1805(b).

Amended by R.1996 d.370, effective August 5, 1996.

See: 28 N.J.R. 2507(a), 28 N.J.R. 3801(a).

In (a) substituted August 10, 1994 for May 27, 1992; in (a)19, Subpart Z, deleted the exclusion of the asbestos standard and deleted the incorporation by reference of 29 CFR Part 1910.1030; and deleted subsec. (c) relating to standards in conflict with the state Uniform Construction Code Act or the state Uniform Fire Safety Act.

Amended by R.1998 d.478, effective September 21, 1998 (operative March 21, 1999).

See: 30 N.J.R. 3476(b).

#### Case Notes

Failure of employer to provide certain protective equipment may provide a basis for employee to leave work due to unhealthful conditions. *Sanchez v. Bd. of Review*, 206 N.J.Super. 617, 503 A.2d 381 (App.Div.1986).

#### 12:100-4.3 Compliance with referenced standards

(a) The standards contained in N.J.A.C. 12:100-4.2 shall apply according to the provisions thereof.

(b) Each employer shall protect his employees by complying with the standards prescribed in N.J.A.C. 12:100-4.2.

### SUBCHAPTER 5. CONSTRUCTION STANDARDS

#### 12:100-5.1 Scope of subchapter

This subchapter shall apply to construction safety and health standards adopted by reference.

#### 12:100-5.2 Adoption by reference

(a) The standards contained in 29 CFR Part 1926, Construction Industry Standards with the amendments published in the Federal Register through August 10, 1994, are adopted as occupational safety and health standards for the protection of public employees engaged in construction operations and shall include:

1. Subpart C—General Safety and Health Provisions;
2. Subpart D—Occupational Health and Environmental Controls;
3. Subpart E—Personal Protective and Life Saving Equipment;
4. Subpart F—Fire Protection and Prevention;
5. Subpart G—Signs, Signals, and Barricades;

6. Subpart H—Materials Handling, Storage, Use, and Disposal;
7. Subpart I—Tools—Hand and Power;
8. Subpart J—Welding and Cutting;
9. Subpart K—Electrical;
10. Subpart L—Ladders and Scaffolding;
11. Subpart M—Floors and Wall Openings, and Stairways;
12. Subpart N—Cranes, Derricks, Hoists, Elevators, and Conveyors;
13. Subpart O—Motor Vehicles, Mechanized Equipment, and Marine Operations;
14. Subpart P—Excavations;
15. Subpart Q—Concrete, and Masonry Construction;
16. Subpart R—Steel Erection;
17. Subpart S—Tunnels and Shafts, Caissons, Cofferdams, and Compressed Air;
18. Subpart T—Demolition;
19. Subpart U—Blasting and Use of Explosives;
20. Subpart V—Power and Transmission and Distribution;
21. Subpart W—Rollover Protective Structures; Overhead Protection; and
22. Appendix—General Industry Standards Identified as Applicable to Construction.

(b) Only standards relating to employee safety and health (that is, substantive rules) are adopted by any incorporation by reference as prescribed in (a) above.

Amended by R.1987 d.439, effective November 2, 1987.

See: 19 N.J.R. 1533(a), 19 N.J.R. 2060(b).

Added text “in effect on July 21, 1986”.

Amended by R.1988 d.260, effective June 6, 1988.

See: 20 N.J.R. 726(a), 20 N.J.R. 1232(a).

Substantially amended (a).

Amended by R.1989 d.476, effective September 5, 1989.

See: 21 N.J.R. 1646(a), 21 N.J.R. 2800(a).

Changes made to conform to the Code of Federal Regulations.

Amended by R.1990 d.216, effective April 16, 1990.

See: 22 N.J.R. 607(a), 22 N.J.R. 1270(b).

Section updated to conform to the Code of Federal Regulations.

Amended by R.1996 d.370, effective August 5, 1996.

See: 28 N.J.R. 2507(a), 28 N.J.R. 3801(a).

In (a) substituted August 10, 1994 for October 31, 1989, and deleted subsec. (c) relating to standards in conflict with the state Uniform Construction Code Act or the state Uniform Fire Safety Act.

#### Case Notes

OSHA standards were relevant in suit of injured business invitee to illustrate industry standards. *Smith v. Kris-Bal Realty, Inc.*, 242 N.J.Super. 346, 576 A.2d 934 (A.D.1990).

OSHA standards adopted in New Jersey could be applicable to scaffold collapse incident or recognized as prevailing safety standards in

community. *Sanna v. National Sponge Co.*, 209 N.J.Super. 60, 506 A.2d 1258 (App.Div.1986).

#### 12:100-5.3 Compliance with referenced standards

(a) The standards contained in N.J.A.C. 12:100-5.2 shall apply according to the provisions thereof.

(b) Each employer shall protect his employees by complying with the standards prescribed in N.J.A.C. 12:100-5.2.

### SUBCHAPTER 6. AGRICULTURAL STANDARDS

#### 12:100-6.1 Scope of subchapter

This subchapter will apply to agricultural safety and health standards adopted by reference.

#### 12:100-6.2 Adoption by reference

(a) The standards contained in 29 CFR Part 1928, Agriculture with the amendments published in the Federal Register through July 31, 1987, are adopted as occupational safety and health standards and shall include:

1. Subpart B—Applicability of Standards;
2. Subpart C—Roll-Over Protective Structures;
3. Subpart D—Safety for Agricultural Equipment; and
4. Subpart I—Toxic and Hazardous Substances.

(b) Only standards relating to employee safety and health (that is, substantive rules) are adopted by an incorporation by reference as prescribed in (a) above.

Amended by R.1987 d.439, effective November 2, 1987.

See: 19 N.J.R. 1533(a), 19 N.J.R. 2060(b).

Added text “in effect on July 21, 1986”.

Amended by R.1988 d.260, effective June 6, 1988.

See: 20 N.J.R. 726(a), 20 N.J.R. 1232(a).

Changed date from July 21, 1986 to July 31, 1987 and added amendments published in the Federal Register.

#### 12:100-6.3 Compliance with referenced standards

(a) The standards contained in N.J.A.C. 12:100-6.2 shall apply according to the provisions thereof.

(b) Each employer shall protect his employees by complying with the standards prescribed in N.J.A.C. 12:100-6.2.

### SUBCHAPTER 7. (RESERVED)

### SUBCHAPTER 8. STANDARDS FOR INDOOR FIRING RANGES FOR PUBLIC EMPLOYEES

#### 12:100-8.1 Scope

(a) This subchapter shall apply to the following:

1. The design considerations, work practices, and ammunition used at existing and new indoor firing ranges operated by public employers;

2. Public employees assigned to work at an indoor firing range; and

3. Public employers who operate indoor firing ranges and who are responsible for complying with the provisions of this standard.

#### 12:100-8.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise.

“Bounce back” means the occasion when hard zinc bullets bounce off the surface of the bullet trap.

“Bullet trap” means the area of the firing range furthest from the shooting area which is equipped with plates to capture the expended bullets after firing.

“HEPA” means a high efficiency particulate absolute filter which is 99.97 percent efficient for 0.3 microns.

“Indoor firing range” means the room inside a building which contains the shooting booths and is used for the shooting of firearms.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### 12:100-8.3 Lead standard

The Lead Standard, Section 1910.1025 of 29 CFR Part 1910, adopted by reference at N.J.A.C. 12:100-4.2(a)18, shall be applicable at indoor firing ranges.

#### 12:100-8.4 Ammunition

(a) The ammunition used in indoor firing ranges during practice sessions shall be zinc bullets or nylon jacketed or copper jacketed bullets. Service ammunition routinely used by the public employer may be used for qualification sessions.

(b) When selecting the type of ammunition to be used to comply with (a) above, consideration shall be given to a potential problem of “bounce back” of the much harder zinc bullet from the bullet trap in some ranges. Consideration shall be given to the potential eye hazard to shooters which may make the use of the zinc bullets unsafe unless changes are made in the bullet trap.

#### 12:100-8.5 Ventilation system

(a) The minimum air velocity shall be 50 feet per minute at the firing line. An optimum air velocity should be 75 feet per minute at the firing line.

(b) Filtered and conditioned air shall be introduced behind the firing line to guarantee an evenly distributed flow of air through the shooting positions. Supplied air inlets should be placed approximately 15 feet behind the shooter's position.

(c) The entire range facility shall be maintained at a slightly negative pressure with respect to adjacent areas to prevent the escape of contaminants. Exhaust air shall exceed supplied air by at least 10 percent. For maximum efficiency, exhaust ducts should be located behind and at the apex of the bullet trap. An alternative location is to place the exhaust ducts on the side walls slightly in front of the apex of the bullet trap.

(d) A minimum down range conveying velocity of 35 feet per minute shall be maintained. When the 75 feet per minute rate is used, a minimum of 25 percent of the air should be exhausted 15 to 20 feet down range of shooting position and the remaining 75 percent at the bullet trap. When the 50 feet per minute rate is used, 100 percent of the air should be exhausted down range at the bullet trap.

(e) Each range shall have its own ventilation system to prevent the circulation of contaminated air to other areas of the building.

(f) The supply and exhaust systems shall be electrically interlocked, thereby eliminating an error in turning one system on and not the other. The system shall operate on one fan speed only.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### 12:100-8.6 Noise exposure

(a) The Occupational Noise Exposure Standard, Section 1910.95 of 29 CFR Part 1910, adopted by reference at N.J.A.C. 12:100-4.2(a)5, shall be applicable at indoor firing ranges.

(b) To minimize the effect of peak sound pressure levels on individuals in the indoor range, all reflecting walls should be covered with high efficiency sound absorbing material. The coverings should be designed to permit easy cleaning and access to the acoustical material for periodic replacement.

(c) The floors directly behind the shooting booths should be covered with acoustical flooring.

(d) Firing range control rooms should be acoustically treated to reduce noise levels.

(e) The bullet trap should not be anchored or attached to any structural support for the building.

#### 12:100-8.7 Water drains

Each firing range should be equipped with a floor drain and trap to facilitate cleaning by a wet method. The drain location should be approximately 20 feet down range of the firing line. The floor should slope two to three inches toward the drain.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### 12:100-8.8 Work practices

(a) The ventilation system shall be in operation at all times while the range is in use and during clean-up.

(b) The range shall be cleaned by vacuum or a wet method. The use of a hand broom shall be prohibited. Vacuum cleaners shall be equipped with high efficiency particulate filters (HEPA) or the equivalent.

(c) At all times while cleaning, repairing, or reclaiming lead in the bullet trap, a National Institute of Occupational Safety and Health approved half-mask, air purifying respirator equipped with high efficiency filters and disposable coveralls shall be the minimum personal protective equipment worn by all employees performing one of more of these tasks.

(d) Proper ear protection shall be provided for and worn by all individuals inside the firing range. The ear protectors

shall be selected on the basis of offering a noise reduction rating of at least 20 decibels. In cases where the noise decibel level is at or above 100 decibels, both plugs and muffs shall be worn simultaneously.

(e) Ear plugs, when worn, shall be properly fitted.

(f) A hearing conservation program shall be instituted and yearly audiometric examinations shall be provided to the firing range officers and instructors.

(g) Eating, drinking, or smoking in the range shall be prohibited.

(h) A specific schedule shall be established to perform maintenance and repair work to keep the range facilities operational and free of hazardous conditions.

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### SUBCHAPTER 9. WORK IN CONFINED SPACES

#### 12:100-9.1 Scope

(a) The purpose of this subchapter is to set forth procedures to protect employees from the hazards of entry into and work within a confined space.

(b) The subchapter shall be applicable to employers and employees engaged in work within a confined space.

#### 12:100-9.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings unless the context clearly indicates otherwise.

“Acceptable environmental condition” means the limiting condition of health and safety required to be present before an employee can enter a confined space, such limiting conditions being set by established safety and health standards.

“Attendant” means a trained individual outside the confined space who acts as an observer of the authorized entrants within the confined space keeping in constant, though not necessarily continuous, communication with them, so the attendant can immediately call rescue services if needed.

“Authorized entrant” means an employee who is authorized by the employer or the designee of the employer to enter a confined space.

“Blanking” or “blinding” means the absolute closure of a pipe, line or duct by fastening across it a solid plate or cap capable of withstanding the maximum upstream pressure.

“Ceiling level” means the maximum airborne concentration of a toxic agent to which an employee may be exposed for a specified period of time.

“Combustible dust” means a dust capable of undergoing combustion or of burning when subjected to a source of ignition.

“Confined space” means a space which by design has limited openings for entry and exit, unfavorable natural ventilation which could contain or produce dangerous air contaminants, could contain a hazardous atmosphere and which is not intended for continuous employee occupancy. A confined space includes, but is not limited to, a tank, vessel, pit, ventilation duct work, vat, boiler, sewer, or underground utility vault.

“Double block and bleed” means a method used to isolate a confined space from a line, duct or pipe by locking or tagging closed two valves in series with each other, and locking or tagging open to the outside atmosphere a drain or bleed in the line between the two closed valves.

“Employee” means any public employee, any person holding a position by appointment or employment in the service of an employer and shall include any individual whose work has ceased as a consequence of, or in connection with, any administrative or judicial action instituted under the Act; provided, however, that elected officials, members of boards and commissions and managerial executives as defined in the New Jersey Employer-Employee Relations Act, N.J.S.A. 34:13A-1 et seq. shall be excluded from the coverage of the Act.

“Employer” means public employer and shall include any person acting directly on behalf of, or with the knowledge and ratification of:

1. The State, or any department, division, bureau, board, council, agency or authority, of the State, except any bi-state agency; or
2. Any county, municipality, or any department, division, bureau, board, council, agency or authority of any county or municipality, or of any school district or special purposes district created pursuant to law.

“Engulfment” means the surrounding and effective capture of an employee by finely divided particulate matter or a liquid.

“Entry” means any action resulting in any part of the face of the employee breaking the plane of any opening of the confined space and includes any ensuing work inside the confined space.

“Entry permit” means the written authorization of the employer for entry under defined conditions into a confined space for a stated purpose during a specified time.

“Entry permit system” means the system of the employer for assuring safe entry of an employee into and working within a confined space where entry is by permit only.

“Hazardous atmosphere” means an atmosphere presenting a potential for death, disablement, injury, or acute illness from one or more of the following causes.

1. A flammable gas, vapor, or mist in excess of 10 percent of its lower flammable limit;
2. An airborne combustible dust at a concentration that obscures vision at a distance of five feet or less;
3. Less than 19.5 percent or more than 23.5 percent oxygen;
4. An atmospheric concentration of any toxic or hazardous substance above the permissible exposure limits pursuant to 29 CFR § 1910.1000 and N.J.A.C. 12:100-4.2, Air contaminant exposure limits;
5. An atmospheric concentration of any toxic or hazardous substance that is known to the employer to present a safety or acute health hazard; or
6. Any condition immediately dangerous to life or health.

“Hot work permit” means the written authorization of the employer to perform operations that could provide a source of ignition, such as riveting, welding, cutting, burning, or heating, in the confined space, or on the exterior surface of the space.

“Immediately dangerous to life or health” means any condition that poses an immediate threat to life, or which is likely to result in acute or immediately severe health effects.

“Immediate severe health effects” means any acute clinical sign of a serious, exposure-related reaction manifested within 72 hours after exposure.

“Inerting” means rendering the atmosphere of a confined space nonflammable, nonexplosive or otherwise chemically nonreactive by displacing or diluting the original atmosphere with steam or a gas that is nonreactive with the atmosphere in the confined space.

“In-plant rescue team” means a group of two or more employees designated and trained to perform a rescue from a confined space in the workplace.

“Isolation” means the positive prevention of any unwanted form of energy or other agent with a serious potential for hazard from entering the confined space by means, such as blanking, double block and bleed, or lockout and tagout.



“Linebreaking” means the intentional opening in a confined space of a pipe, line or duct that is or has been carrying flammable, corrosive or toxic material, inert gas, or any fluid at a pressure or temperature capable of causing injury.

“Not-permitted condition” means any condition or set of conditions whose hazard potential exceeds the limits authorized by the entry permit.

“Oxygen deficient atmosphere” means an atmosphere containing less than 19.5 percent oxygen by volume.

“Oxygen enriched atmosphere” means an atmosphere containing more than 23.5 percent oxygen by volume.

“Permissible exposure limit” means the maximum eight hour time weighted average of any airborne contaminant to which an employee may be exposed.

“Purging” means the method by which gases, vapors, or other airborne impurities are displaced from a confined space.

“Qualified person” means a person designated by the employer, in writing, as capable by education or specialized training, or both, of anticipating, recognizing, and evaluating employee exposure to hazardous substances or other unsafe conditions in a confined space and capable of specifying necessary control or protective action both to insure worker safety.

“Retrieval line” means a line or rope secured at one end to a worker with the other end secured to a lifting or other retrieval device, or to an anchor point located outside the entry portal.

Amended by R.1989 d.477, effective September 5, 1989.

See: 21 N.J.R. 1647(a), 21 N.J.R. 2800(a).

Changes made to conform to the Code of Federal Regulations.

### 12:100-9.3 Confined space program

(a) The employer or individual who is responsible for sending workers into confined spaces shall:

1. Be a qualified person;
2. Establish written procedures for a confined space program;
3. Identify each confined space and inform employees by sign, placard, training program, or other effective means to prevent inadvertent entry;
4. Provide affected employees with the specific training necessary before the employees may be authorized to enter a confined space to perform their specific duties;
5. Assure the availability of protective clothing and other personal protective equipment necessary for safe entry;

6. Assure the ready on-site availability and use of rescue and safety related equipment or services, such as lifting or retrieval devices for use in an emergency;

7. Provide and require the use of retrieval lines for atmospheres immediately dangerous to life or health or where there is a risk of engulfment, to make a rescue possible without entering. There shall be adequate attachment points outside the confined space for tying-off or otherwise securing retrieval lines for all authorized entrants. Where retrieval lines could constitute an entanglement hazard or cannot be used, the employer shall provide an equivalent method for rescue;

8. Determine and evaluate the source of any atmospheric contamination found at the time of entry. The employer shall make appropriate provision in case the severity of the hazard could increase, while employees are in the confined space;

9. Provide and maintain the necessary monitoring devices to evaluate the atmosphere of a confined space;

10. Provide an attendant for each entry permit, unless otherwise permitted by this subchapter;

11. Provide and maintain in proper working order all equipment necessary to make safe entry;

12. Establish an entry permit system pursuant to N.J.A.C. 12:100-9.4; and

13. Properly train employees to perform atmospheric tests in a confined space in the use and calibration of testing equipment.

### 12:100-9.4 Entry permit system

(a) The employer shall develop, implement, and use an entry system that includes a written procedure for issuance of a permit to enter a confined space;

(b) The employer shall ensure that the entry permit system developed complies with the following:

1. That the system identifies all confined spaces for employees;
2. That the system determines the actual and potential hazards reasonably expected to be associated with the confined space at the time of entry, so the employer can choose the appropriate means to execute a safe entry;
3. That the system provides for the monitoring of any air contaminant, oxygen deficiency, or flammable vapor that could be associated with the atmosphere in the confined space. This monitoring shall be performed immediately prior to entry and as often as is necessary thereafter;
4. That the system provides for proper calibration of test and monitoring equipment;
5. That the system provides appropriate vehicle and pedestrian guards, barriers or other means to protect the

entry party and attendants from local traffic hazards, and protects non-entering employees from hazards arising from the confined space;

6. That the system provides pre-planned emergency evacuation;

7. That the system provides for pre-planned emergency rescue;

8. That the system identifies by job title those persons who must sign the entry permit and the duties of each, including the person in charge of entry;

9. That the system defines the role of the qualified person, if such a person is a part of the employer's entry permit system;

10. That the system provides that any employee who participates in an entry permit system in any capacity has been properly trained; and

11. That the system provides by appropriate testing that the control measures used are effective.

#### 12:100-9.5 Entry permit

(a) The original of the entry permit shall be kept on file in the office of the employer who issued the entry permit and a copy of the entry permit shall be posted at the entrance to the confined space.

(b) The entry permit shall authorize entry only by authorized entrants into a specific confined space, for a specific purpose, with entry by specific shifts or work crews, and be valid for a period not to exceed eight hours, except for:

1. Rescue team entry; or

2. Entry authorized by special permit described in N.J.A.C. 12:100-9.13 through 9.17.

(c) The entry permit shall:

1. Describe the hazards known or reasonably expected to be present in the confined space;

2. Specify the minimum acceptable environmental conditions for entry and work in the confined space.

3. Make provision for assuring and certifying that the specified pre-entry requirements are met;

4. Specify by name or job title the person authorizing or in charge of the entry;

5. Name the attendant, unless the permit directs that the attendant function rotates or unless otherwise permitted by this subchapter; and

6. Make provisions for assuring that the in-plant rescue team is available.

(d) The entry permit or a checklist attached to the entry permit shall:

1. Specify isolation, cleaning, purging, inerting, or ventilating to be done prior to entry to remove or control those hazards, or certify that these procedures have been done;

2. Describe any additional hazards that may be reasonably expected to be generated by the activities of the entrants in the confined space and specify any special work procedures to be followed;

3. Specify the personal protective equipment, including respiratory protection and protective clothing, that is necessary for entry or rescue in accordance with N.J.A.C. 12:100-4.2(a)7 Subpart I, Personal Protective Equipment;

4. Specify the atmospheric testing to be done immediately prior to and during the entry period and designate the individual responsible for performing the tests unless otherwise permitted by this section;

5. Where hot work is necessary, authorize such hot work, either as part of the entry itself or by a separate hot work permit which is attached to the entry permit, with its issuance noted on the entry permit; and

6. Specify the type of equipment necessary for rescue purposes that must be readily available. In the case of entry into an atmosphere actually or potentially immediately dangerous to life or health, a positive pressure, self-contained breathing apparatus approved by the National Institute of Occupational Safety and Health, and any other equipment necessary for rescue purposes shall be available at the point of entry.

#### 12:100-9.6 Training for all employees

(a) The employer shall assure that all employees who may be exposed to confined spaces in the course of their employment are aware of the appropriate procedures and controls for entry.

(b) The employer shall assure that all employees are aware that unauthorized entry into such spaces is forbidden.

(c) The employer shall make all employees aware that the consequences of unauthorized entry could be fatal, and that their senses are unable to detect and evaluate the severity of atmospheric hazards.

#### 12:100-9.7 Training for authorized entrants

(a) The employer shall assure that all authorized entrants and in-plant rescue teams have received training including annual retraining covering the issues of (b) through (f) below prior to entering any confined space. The employer shall retain a written record of the hours and subject matter of such training.

(b) The employer shall assure that every employee, before entering a confined space containing a potentially hazardous environment, understands the nature of the hazard and the need to perform appropriate testing to determine if it is safe to enter.

(c) Employees shall be taught the proper use of all personal protective equipment, including respirators and clothing required for entry or rescue, and the proper use of protective shields and barriers. The employer shall comply with the training provisions of N.J.A.C. 12:100-4.2(a)7 Subpart I, Personal Protective Equipment.

(d) Employees shall be trained to exit from a confined space as rapidly as they can without help (self-rescue), whenever an order to evacuate is given by the attendant, whenever an automatic evacuation alarm is activated, or whenever employees recognize the warning signs of exposure to hazardous substances whose presence in the confined space is known or expected.

(e) Employees shall be made aware of the toxic effects or symptoms of exposure to anticipated hazardous materials that may be inhaled or absorbed through the skin. Employees shall be trained to relay an alarm to their attendant and to attempt self-rescue immediately on becoming aware of these effects.

(f) The employer shall train employees in any modifications of normal work practices that are necessary for work in a confined space.

(g) Employees performing atmospheric tests of the confined space shall be properly trained in the use and calibration of testing equipment.

#### **12:100-9.8 Training for person authorizing or in charge of entry**

(a) The person in charge of entry shall be trained to:

1. Recognize the effects of exposure to hazards reasonably expected to be present; and
2. Carry out those duties that the entry permit assigns to the person in charge of entry.

#### **12:100-9.9 Training for the attendant**

(a) The attendant shall be trained in:

1. Proper use of the communications equipment furnished by the employer for communicating with authorized entrants or summoning emergency or rescue service;
2. Authorized procedures for summoning rescue or other emergency service;
3. Recognition of the early behavioral signs of intoxication caused by contaminants or asphyxiants whose presence could be anticipated in the confined space;

4. The requirements of N.J.A.C. 12:100-9.7, if the permit specifies that the function of the attendant will alternate among the authorized entrants; and

5. The requirements of N.J.A.C. 12:100-9.12, if the attendant will have rescue duties that could require entry.

#### **12:100-9.10 Duties of the attendant**

(a) The attendant shall:

1. Remain outside the confined space;
2. Maintain continuous communication with all authorized entrants within the confined space by voice, radio, telephone, visual observation, or other equally effective means. If it is not possible for one attendant to maintain communication with each entrant because of the work station of the entrant in the confined space, other arrangements shall be made to assure that the attendant is continuously aware of the location and condition of any entrant who is out of range of direct communication in the confined space because of his work station;
3. Have the authority to order entrants to exit the confined space at the first indication of a not-permitted condition, an unexpected hazard, indication of a toxic reaction, for example, unusual conduct by the entrants, or if a situation occurs outside the confined space that could pose a hazard to the entrants;
4. Know the procedure and have the means to summon immediate emergency assistance if needed;
5. Remain in his or her post and not leave for any reason except self-preservation, unless replaced by an equally qualified individual while entry continues. The attendant shall order the entrants to exit the confined space, if the attendant must leave and there is no replacement; and
6. Warn unauthorized persons not to enter, or to exit immediately if they have entered, and advise the authorized entrants and any others specified by the employer of entry by unauthorized persons.

#### **12:100-9.11 Duties of the person in charge of entry**

(a) The person in charge of entry shall:

1. Assure that the pre-entry portions of the permit are completed before any employee enters a confined space;
2. Verify that the necessary pre-entry conditions exist but he or she need not personally conduct the tests;
3. Verify, if an in-plant rescue team is to be used, that the in-plant rescue team is available;
4. Verify that the means for summoning the in-plant rescue team or other emergency assistance are operable; and
5. Terminate the entry upon becoming aware of a not-permitted condition.

(b) If the person in charge of entry is present throughout the entry period, this person may serve as the attendant.

#### 12:100-9.12 In-plant rescue teams

(a) An in-plant rescue team shall consist of personnel equipped with the personal protective equipment, including respiratory protective equipment, necessary for entry into a confined space, and with the rescue and retrieval equipment the employer has provided for rescue from a confined space.

(b) The in-plant rescue team shall be trained in accordance with N.J.A.C. 12:100-9.7, and in the correct performance of the rescue functions assigned to them using the retrieval and rescue equipment furnished, and in the proper wearing and use of any personal protective equipment, including respirators, that they may need to use during an actual rescue.

(c) A rescue team shall practice, at least annually, removing simulated victims, such as dummies, mannequins, or real people, through representative openings and portals which have the same size, configuration and accessibility as the confined space from which an actual rescue would be required.

(d) At least one member of each rescue team shall hold current certification in basic first-aid and cardio-pulmonary resuscitation.

#### 12:100-9.13 Special entry-permit for duration of job

(a) The procedures described in this section for the special entry permit for the duration of the job are applicable only for the restricted circumstances and conditions described in (b) below.

(b) Any entry permit for the duration of the job may be issued and used for the duration of a job provided that:

1. Conditions in the confined space have no known potential for presenting either an immediately dangerous to life or health atmosphere or an engulfing condition;

2. Inspection of the confined space and atmospheric testing, performed at least at the beginning of each work shift, confirms that acceptable conditions for entry exist, and that the periodic atmospheric testing conducted during the course of the work shift, as specified in the permit, also confirms that conditions remain acceptable as work progresses;

3. Only operations, processes or procedures that are specifically authorized by the permit, and which could not increase, or be the source of, a hazard to employees are used in the confined space;

4. Any process or procedure, such as welding, which is not addressed by the original permit shall not be conducted until the employer either issues a new entry permit or appends a special purpose permit to the original permit; and

5. All employees shall be immediately withdrawn from the confined space and the special permits shall be void if atmospheric testing or inspection indicates that a not-permitted condition exists as a result of special permit activity, or that conditions outside the confined space could pose a hazard to entrants. The employer shall correct the hazardous condition before a new special permit may be issued.

#### 12:100-9.14 Special entry permit for one year duration

(a) The procedures described in this section for the special entry permit for one year duration are applicable only for the restricted circumstances and conditions described.

(b) Employers whose operations require employees to perform routine repetitive entry into a confined space which has no known potential for presenting an immediately dangerous to life and health atmosphere, and no potential for an engulfment condition, may issue an annual permit instead of a separate permit for each entry.

(c) When work in a confined space is to be done under the terms of an annual permit, the employer shall:

1. Establish specific entry procedures that must be followed for entry by annual permit before any employee may be authorized to make such an entry;

2. Train employees in the procedures required for such entries;

3. Assure that employees test the atmosphere prior to entry using an appropriate direct reading instrument, or other device which quantitatively identifies anticipated contaminants, with a remote sampling probe, testing for, in the following order, oxygen concentration, combustible gas, and suspected toxic materials;

4. Allow, at the employers' discretion, entry by one or more employees without an attendant where continuous, positive ventilation, sufficient to maintain the atmosphere within established permit conditions, or appropriate additional atmospheric monitoring is provided; and

5. Revoke the permit whenever any test done pursuant to this section shows that conditions in the confined space have become more hazardous than contemplated under the permit. When this occurs, entry may be made only after an entry permit has been issued in accordance with N.J.A.C. 12:100-9.4.

#### 12:100-9.15 Special entry permit for diked areas

(a) The procedures described in this section for special entry permits for diked areas are applicable only for the restricted circumstances and conditions described.

(b) Diked areas for storage tanks may be entered using non-attendant entry procedures, without providing ventilation or performing atmospheric tests prior to entry to perform routine operations, provided that:

1. There is no reason to believe there is or may have been any escape of flammable, toxic, or corrosive material into the diked area in sufficient quantity to create an immediately dangerous to life and health atmosphere; and

2. If line breaking is to be done in a diked area, the line breaking procedure of the employer shall be followed.

#### **12:100-9.16 Special entry for low hazard belowground space**

(a) The procedures described in this section for special entry permits for low hazard belowground space are applicable only for the restricted circumstances and conditions described in (b) below.

(b) A belowground confined space may be entered by an annual or job duration permit as a non-attended entry where no risk of engulfment can exist, and where the atmosphere cannot become immediately dangerous to life and health, provided that:

1. The space prior to entry has been ventilated using a mechanically powered ventilator for not less time than is specified in the ventilation nomograph prepared for that ventilator, and that ventilation continues throughout the entry;

2. A combination of appropriate atmospheric testing and mechanically powered ventilation is used; or

3. Without the mechanically powered ventilation, appropriate continuous atmospheric monitoring or frequent atmospheric testing at intervals prescribed by the employer assures that permit conditions are maintained.

#### **12:100-9.17 Special entry permit for a non-attended situation**

(a) The procedures described in this section for the special entry permit for a non-attended situation are applicable only for the restricted circumstances and conditions described in (b) below.

(b) Routine or repetitive entries into a confined space, which have no known potential for an immediately dangerous to life or health atmosphere or an engulfment situation, and in which all known hazards are positively controlled, are permitted without an attendant, provided that:

1. The employer verifies, immediately prior to entry, that no hazard exists;

2. The entrant takes no materials that could cause a hazard into the confined space;

3. The entrant will not perform any work that could cause a hazard in the confined space; and

4. Adherence to the above conditions is assured by established work practices, or the use of a checklist, or by both.

(c) A non-attendant situation may be created by a permit valid for a period of up to one year under the conditions described in N.J.A.C. 12:100-9.13.

#### **12:100-9.18 Contractors**

(a) An employer who retains contractor services for work in a confined space shall inform the contractor of any potential fire, explosion, health or other safety hazards of that confined space which are reasonably ascertainable by that employer.

(b) An employer who retains the services of a contractor shall inform the contractor of the confined space program and other applicable safety rules of the facility. The employer shall inform the contractor of those portions of the emergency action plan, based on N.J.A.C. 12:100-4.2(a) Subpart E, Means of Egress, which are applicable to the employees of the contractors.

Amended by R.1989 d.83, effective February 6, 1989.

See: 20 N.J.R. 2855(b), 21 N.J.R. 299(c).

Deleted "who are public employees" from (b).

### **SUBCHAPTER 10. STANDARDS FOR FIREFIGHTERS**

#### **12:100-10.1 Scope; standards information**

(a) This subchapter shall apply to all public employment as provided below:

1. Standards for personal protective equipment, respiratory protective equipment and other requirements for the fire service (both career and volunteer).

(b) This subchapter shall not be applicable to:

1. Construction, agriculture and maritime employment;

2. Airport crash rescue; or

3. Forest firefighting operations.

(c) The ANSI, CGA and NFPA standards incorporated in this subchapter by reference may be obtained by contacting the issuing entities at the addresses listed in N.J.A.C. 12:100-17.3.

#### **12:100-10.2 Definitions**

The following words and terms, when used in this subchapter, have the following meaning unless the context clearly indicates otherwise.

"ANSI" means American National Standards Institute.

"Approved" means the term as defined at N.J.A.C. 12:100-2.1.

"CGA" means Compressed Gas Association.

"Career firefighter" means any person who has his or her primary employment as a firefighter, who ordinarily works at that employment at least 20 hours per week and who is enrolled as a firefighter in a public retirement system.

"Career fire service" means a fire department or fire brigade which is composed of persons who have chosen firefighting or related duties as their occupation in paid, part paid fire departments or fire districts.

"Confined space" means the term as defined at N.J.A.C. 12:100-9.2.

"Damaged equipment" means equipment which has been affected by external forces such as, but not limited to, mechanical, thermal, chemical or hydraulic, to an extent whereby the equipment no longer performs its original function to the extent required for the users' safety.

"Education" means the process of imparting knowledge or skill through systematic instruction.

"Employee" means the term as defined at N.J.A.C. 12:100-2.1.

"Employer" means the term as defined at N.J.A.C. 12:100-2.1.

"Enclosed structure" means a structure with a roof or ceiling and at least two adjacent walls which may present fire hazards to employees.

"Fire brigade" means an organized group of firefighters who are public employees who have an obligation to fight fires but who may be assigned to other duties.

"Fire department" means an organized group of employees organized by the public employer who are knowledgeable, trained and skilled in basic firefighting operations.

"Firefighter" means a member of the fire service who engages in the physical activity of rescue, fire suppression or both, in buildings, enclosed structures, vehicles, vessels or like properties that are involved in a fire or emergency situation.

"Fire service" means a fire department or fire brigade.

"Helmet" means a head protective device consisting essentially of a shell, an energy absorbing system, a retention system, fluorescent retro-reflective markings, ear covers and faceshield.

"Interior structural firefighting" means the physical activity of fire suppression, rescue or both, inside of buildings or enclosed structures which are involved in a fire situation beyond the incipient stage.

"NFPA" means the National Fire Protection Association.

"Overhaul" means the final control of a fire with suppression of the main body of the fire and other pockets of fire, searching for victims and performing salvage operations.

"Positive-pressure apparatus" means an open or closed-circuit apparatus in which the pressure inside the face piece in relation to the immediate environment is positive during both inhalation and exhalation.

"Quick disconnect valve" means a hand-operated device which provides a means for connecting and disconnecting the air cylinder to the self-contained breathing apparatus.

"Remanufactured" means the complete dismantling and reassembly of the fire apparatus body with or without removal from the chassis during the process.

"Respiratory protective device" means a breathing device designed to protect the wearer from an oxygen-deficient or hazardous atmosphere.

"SCBA" means self-contained breathing apparatus.

"Self-contained breathing apparatus" means a portable device that includes the supply of respirable breathing gas for the firefighter.

"Service life" means the period of time that a respirator has been rated to provide protection to the wearer.

"Unserviceable" means past useful life of garment or protective gear, or those that have been declared unsafe.

"Vapor-barrier" means that material used to substantially prevent or inhibit the transfer of water, corrosive liquid, steam or other hot vapors from the outside of a garment to the wearer's body.

"Volunteer firefighter" means any person other than a career firefighter who serves as a firefighter in a public or private firefighting agency or organization.

"Volunteer fire service" means a fire department or brigade composed of persons who provide their services without compensation in the public interest.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

### 12:100-10.3 Organization

(a) The employer shall prepare and maintain a statement or written policy which contains the following:

1. The basic organizational structure of the fire service;
2. The expected number of members in the fire service; and

3. The functions that the fire service is to perform.

(b) The organizational statement shall be available for inspection by the Commissioner of Labor and by the employees or their designated representative.

#### **12:100-10.4 Personnel; limitations on ability to perform**

(a) The employer shall assure that employees who are expected to do interior structural firefighting are physically capable of performing duties which may be assigned to them during emergencies.

(b) The employer shall assure that compliance with (a) above shall be accomplished in conformity with the provisions of the Americans with Disabilities Act of 1990.

#### **12:100-10.5 Protective clothing**

(a) The employer shall provide, at no cost to the employee, and assure the use of, protective clothing which complies with this subchapter.

(b) Firefighters performing interior structural firefighting and overhaul shall be provided with the equipment covered in this subchapter.

(c) The employer shall assure that:

1. Protective clothing protects the head, body and extremities, and consists of at least the following components: body protection, eye, face and head protection;

2. Protective clothing ordered or purchased after the effective date of this subchapter shall comply with this subchapter; and

3. Career firefighters wear foot, leg and body protective clothing complying with this subchapter except that existing foot, leg and body protection meeting the previous OSHA standards that are superseded by this subchapter may continue to be worn until January 4, 1995.

4. Volunteer firefighters wear foot, leg and body protective clothing that meet the previous OSHA standards that are superseded by this subchapter until either they become unserviceable or replaced.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### **12:100-10.6 Protective clothing; foot and leg protection**

(a) Foot and leg protection shall comply with this section by January 4, 1995 for all career firefighters, and as replacement of existing foot and leg protection is required for the volunteer firefighters.

1. Protective footwear shall comply with NFPA 1974-1987, Protective Footwear for Structural Firefighting.

i. The use of three quarter length boots may continue as follows:

(1) Until bunker pants are purchased or not later than January 4, 1995 for career firefighter; and

(2) Until replacement of the boots is necessary for volunteer firefighters.

#### **12:100-10.7 Protective clothing; body protection**

(a) Body protection shall comply with this section by January 4, 1995 for the career firefighters, and as replacement is required for the volunteer firefighters.

(b) Body protection shall be achieved by the wearing of a fire resistive coat and bunker pants, both of which shall be at least equivalent to NFPA 1971-1986, Protective Clothing for Structural Firefighting, incorporated herein by reference. For career firefighters, body protection must be worn in combination with a station/work uniform or apparel complying with (c) below.

(c) Station/work apparel shall be provided to the career firefighter by January 4, 1995 as follows:

1. The performance, construction and testing of station/work uniforms shall be at least equivalent to NFPA 1975-1985, Station/Work Uniforms for Firefighters, incorporated herein by reference; or

2. Apparel issued to the firefighter must be of a non-meltable material, such as cotton.

#### **12:100-10.8 Protective clothing; hand protection**

(a) Hand protection shall consist of protective gloves or a glove system which will provide protection against cuts, punctures and heat penetration.

(b) The performance, construction, and testing of gloves for structural firefighters shall be at least equivalent to NFPA No. 1973-1988, Gloves for firefighters incorporated herein by reference.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### **12:100-10.9 Protective clothing; head, eye and face protection**

(a) Head protection shall consist of a protective head device with ear flaps and chin strap which meet the performance, construction and testing requirements of 29 CFR Part 1910.156(e)(5) or NFPA Standard 1972-1987 edition.

(b) Full facepieces, helmets, hoods or breathing apparatus which comply with 29 CFR 1910.134 and N.J.A.C. 12:100-10.10 shall be deemed to comply with (a) above.

#### **12:100-10.10 Respiratory protection devices**

(a) The employer shall provide, at no cost to the employee, and shall assure the use of, respirators which comply with this section.

(b) The employer shall assure that all firefighters wear respiratory protective devices complying with this section and that such respirators are certified in accordance with 30 CFR Part 11, Respirators.

(c) Approved self-contained breathing apparatus with a full-facepiece, or with approved helmet or hood configuration, shall be provided to, and worn by, firefighters as follows:

1. While engaged in interior structural firefighting;
2. While working in confined spaces where toxic products of combustion or an oxygen deficiency may be present;
3. During emergency situations involving toxic substances; and
4. During all phases of firefighting and overhaul.

(d) The employer shall assure that:

1. Respirators ordered or purchased after January 4, 1993 shall be at least equivalent to NFPA No. 1981-1987, Open-Circuit Self-Contained Breathing Apparatus for Fire Fighters; incorporated herein by reference; and
2. All firefighters shall wear respirators complying with this subchapter except that existing respirators meeting the previous OSHA standards that are superseded by this subchapter may continue to be worn until such time as the respirator becomes unserviceable.

(e) The employer shall establish and maintain a respiratory protection program which includes:

1. Self-contained breathing apparatus regulators shall be subject to overhaul and recalibration at least every two years or when damaged. Such overhaul shall be performed by the manufacturer or by personnel trained and certified by the self-contained breathing apparatus manufacturer to perform such repairs;

2. Negative-pressure self-contained breathing apparatus with a rated service life of more than two hours and which has a minimum protection factor of 5,000, as determined by an acceptable quantitative fit test performed on each individual, shall be acceptable for use only during those situations for which the employer demonstrates that long duration breathing apparatus is necessary.

- i. Quantitative fit test procedures shall be available for inspection by the Commissioner of Health.

- ii. Negative-pressure breathing apparatus shall continue to be acceptable for 18 months after a positive-pressure breathing apparatus with the same or longer rated service life is certified by the National Institute of Occupational Safety and Health (NIOSH). After this 18-month period, all self-contained breathing apparatus used for these long duration situations shall be of the positive-pressure type.

3. The requirements of ANSI Z88.5-1981, Practice for Respiratory Protection for the Fire Service, are incorporated and adopted herein by reference as if fully set forth, except for Section 3.3, Medical limitations, which is a subject of Department of Labor regulation N.J.A.C. 12:100-10.4.

(f) Existing respirators meeting the previous OSHA standards that are superseded by this Subchapter:

1. May be used with approved cylinders from other approved self-contained breathing apparatus provided that such cylinders are of the same capacity and pressure rating. All compressed air cylinders used with self-contained breathing apparatus shall meet the criteria of 49 CFR Parts 100 through 199 and 30 CFR Parts 11, 12, 13, 14 and 14a;

2. Can be switched from a demand to a positive pressure mode. However, such apparatus shall be in the positive pressure mode when firefighters are performing interior structural firefighting operations or overhaul.

(g) The employer shall have a written plan to assure that there are sufficient quantities of compressed air available to refill self-contained breathing apparatus tanks for all emergencies.

(h) Self-contained breathing apparatus shall be provided with an end of service time indicator which automatically warns the user when the remaining service time for the apparatus is reduced to a range of 20 to 25 percent of its rated service time.

Amended by R.1995 d.43, effective January 17, 1995.  
See: 26 N.J.R. 4313(a), 27 N.J.R. 373(b).

#### **12:100-10.11 Life-safety rope, harnesses and hardware**

(a) This section is intended to apply to fire departments that train and perform rope rescue services. All employees that are required by the fire department to participate in such rescue services shall be provided with the proper equipment meeting the requirements of this section.

(b) The employer shall provide, at no cost to the employee, and assure the use of, life-safety rope, harnesses, and hardware which comply with this section.

(c) The employer shall assure that the life-safety rope, harnesses and hardware complying with this section are used to support fire service personnel during rescue, firefighting, and other emergency operations, or during training exercises, on a date not later than January 4, 1994.

(d) The performance, construction and testing of ropes, harnesses, and hardware for firefighters shall be at least equivalent to NFPA No. 1983-1985, Fire Service Life-Safety Rope, Harnesses and Hardware, incorporated herein by reference.



(e) Life-safety rope, harnesses and hardware need only be provided in those departments that perform rope rescue services and to employees who perform such services.

#### 12:100-10.12 Personal alert safety system

(a) The employer shall provide, at no cost to the employee, and assure the use of, a personal alert safety system which complies with this section.

(b) The employer shall assure that all firefighters wear personal alert safety systems that comply with this section by January 4, 1994, except that personal alert safety systems complying with NFPA standard 1982-1983 may continue to be used until they become unserviceable.

(c) The performance, construction and testing of a personal alert safety system for a firefighter shall be at least equivalent to NFPA No. 1982-1988, Personal Alert Safety Systems (PASS) for Firefighters, incorporated herein by reference.

(d) Approved personal alert safety systems shall be provided and worn by the firefighter as follows:

1. While engaged in interior structural firefighting;
2. While working in confined spaces;
3. During all phases of overhaul; and
4. The PASS device shall be attached to the exterior of the firefighter's turnout gear.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### 12:100-10.13 Hearing protection

(a) This section is intended to provide hearing protection to the firefighter in non-emergency situations. An example of a non-emergency situation requiring hearing protection to the employee would be during the testing of equipment creating a noise level exceeding 90 decibels (dBa). The hearing conservation program described should be in writing and may be incorporated into standard operating procedures (SOP).

(b) The fire department shall provide hearing protection for all members when they are exposed to noise in excess of 90 dBa from power tools or equipment, except for situations where the use of hearing protection devices would create an additional hazard to the user.

(c) The fire department shall engage in a hearing conservation program to identify and reduce or eliminate potentially harmful sources of noise in the work environment.

(d) The provisions of CFR 1910.95, Occupational Noise Exposure, incorporated at N.J.A.C. 12:100-4.2(a)5, Subpart G, Occupational Health and Environmental Control, is applicable to this subchapter.

#### 12:100-10.14 Filling air cylinders

(a) Air cylinders shall be refilled in accordance with CGA P-15-1985, Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders, incorporated herein by reference.

(b) Air cylinders for respiratory equipment shall be filled only by personnel trained pursuant to (a) above and (c) below.

(c) The charging station shall be equipped with proper facilities to ensure the safety of the charging station operator and nearby personnel.

(d) The charging station shall be equipped with proper facilities to ensure that the compressed air complies with Type 1 Grade D breathing air as described in CGA G7.1-1973, Commodity Specification for Air, incorporated herein by reference.

#### 12:100-10.15 Fire apparatus operations

(a) Whenever a fire apparatus leaves the fire station in response to a fire alarm, all firefighters, except the driver of the fire apparatus, shall have donned their protective clothing before the apparatus is in motion. The term "fire apparatus" does not include an automobile.

(b) The employer shall provide restraining devices for all firefighters aboard a fire apparatus by January 4, 1998. Restraining devices may include protective seating, seatbelts or vehicle harnesses for all firefighters aboard.

(c) All fire apparatus purchased and/or remanufactured after January 4, 1993 shall provide enclosed seating with seatbelts for all personnel riding on the apparatus, complying with the following standards, incorporated herein by reference:

1. NFPA No. 1901-1991 Pumper Fire Apparatus;
2. NFPA No. 1902-1991 Initial Attack Fire Apparatus;
3. NFPA No. 1903-1991 Mobile Water Supply Fire Apparatus; and
4. NFPA No. 1904-1991 Aerial Ladder and Elevating Platform Apparatus.

Amended by R.1994 d.492, effective September 19, 1994.  
See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

#### 12:100-10.16 Maintenance of firefighter equipment

Firefighting equipment required under this subchapter that is in damaged or unserviceable condition shall be removed from service and replaced.

## SUBCHAPTER 11. CONTROL OF HAZARDOUS ENERGY SOURCES

### 12:100-11.1 Purpose and scope

(a) This subchapter covers servicing or maintenance of machines or equipment in which the unexpected energization, start up, or release of stored energy could cause injury to employees, and establishes minimum performance requirements for the control of such hazardous energy. This subchapter does not address:

1. Construction, agriculture and maritime employment;
2. Installations under the exclusive control of electric utilities for the purpose of power generation, transmission and distribution, including related equipment for communication or metering;
3. Exposure to electrical hazards from work on, near, or with conductors or equipment in electric utilization installations, which is covered by Subpart S of CFR 29, Part 1910, U.S. Department of Labor Occupational Safety and Health Standards; or
4. Oil and gas well drilling and servicing.

(b) This subchapter is applicable to the control of energy sources during servicing or maintenance of machines or equipment with the following exceptions:

1. Work on plug and cord type electrical equipment, for which exposure to the hazards of unexpected energization, start-up, or the release of stored energy of the equipment is effectively controlled by other measures;
2. Hot tap operations involving transmission and distribution systems for substances such as gas, steam, water or petroleum products when they are performed on pressurized pipelines, provided that the employer demonstrates that continuity of services is essential, shutdown of the system is impractical, and documented procedures and special equipment are implemented which will provide proven effective protection for employees;
3. Normal production operations; or
4. Servicing or maintenance which takes place during normal production operations, such as lubricating, cleaning, and making minor adjustments and simple tool changes, if it is necessary to perform such servicing or maintenance with the machine or equipment energized, and if such servicing or maintenance is performed using alternative measures which the employer can demonstrate will provide effective protection.

(c) The purpose of this subchapter is to prevent injuries to employees from the unexpected energization, start-up or release of stored energy from machines, equipment, or processes when such employees are engaged in the activities listed in (a) above, and requires employers to establish and implement procedures for affixing the appropriate lockout/tagout devices to energy isolating devices, and to otherwise disable machines, equipment or processes to prevent unexpected energization, start-up or the release of stored energy.

### 12:100-11.2 Definitions

The following words and terms, when used in this subchapter, shall have the following meanings, unless the context clearly indicates otherwise:

“Affected employee” means a person, other than the authorized employee, whose job includes activities covered by the standards set forth in this subchapter.

“Authorized employee” means a qualified person to whom the authority and responsibility to perform a specific lockout and/or tagout assignment has been given by the employer.

“Energized” means connected to an energy source (mechanical, electrical, hydraulic, etc.) which has not been isolated.

“Energy isolating device” means a device that physically prevents the transmission or release of energy, including, but not limited to, the following: mutually operated electrical circuit breakers; disconnect switches, manually operated switches; slide gates; slip blinds; line valves; blocks and similar devices used to block or isolate energy. The term does not include push buttons, selector switches, and other control circuit type devices.

“Energy source” means any electrical, mechanical, hydraulic, pneumatic, chemical, thermal, or other energy source that is capable of causing injury to employees.

“Hot tap” means a procedure used in repair, maintenance and service activities which involves welding a piece of equipment (pipelines, vessels or tanks) under pressure, in order to install connections or appurtenances. It is commonly used to replace or add sections of pipeline without the interruption of service for air, gas, water, steam, and petro-chemical distribution systems.

“Lockout/tagout” means the placement of a lock and a tag on the energy isolating device in accordance with an established procedure, indicating that the energy isolating device or the equipment being controlled shall not be operated until removal of the lock and tag.

“Normal production operations” means operations that include those activities which enable the machine or equipment to perform its intended production functions, and which are carried out by employees as part of the production process, with the machine or equipment energized.

“Qualified person” means a person who can demonstrate by experience or training the ability to recognize potentially hazardous energy and its potential impact on workplace conditions, and has the knowledge to implement adequate methods and means for the control and isolation of such energy.

“Servicing or maintenance” means functions that include workplace activities such as installing, construction, adjusting, setting up, inspecting and maintaining or repairing machines or equipment.

“Setting up” means any work that must be performed to place a machine or equipment in an operational mode.

“Tagout device” means a prominent warning device capable of being securely attached to an energy isolating device that identifies the applier or authority who has control of the energy control procedure, and contains information and/or instructions to prevent the operation of an energy isolating device.

### 12:100-11.3 General energy control

The employer shall ensure that before an employee performs any activities where the unexpected energization, start up or release of stored energy could occur and cause injury, all potentially hazardous energy sources shall be isolated, locked/tagged out and otherwise disabled in accordance with the provisions set forth at N.J.A.C. 12:100-11.10.

### 12:100-11.4 Procedures

(a) Procedures shall be developed, documented and implemented by the employer for the control of potentially hazardous energy when employees are engaged in the activities covered by this section.

(b) The procedure shall clearly and specifically outline the scope, purpose, responsibility, authorization, rules, and techniques to be applied to the control of hazardous energy, and measures to enforce compliance including, but not limited to, the following:

1. A specific statement as to the intended use of the procedure;
2. Specific procedural steps for the shutting down, isolating, blocking and securing (lock and tags) of energy;
3. Specific procedural steps for the removal and transfer of locks and tags and the responsibility for them; and
4. Specific requirements for testing a system to determine and verify the effectiveness of lockout/tagout and other energy control measures.

### 12:100-11.5 Protective materials and hardware

(a) Locks, tags, chains, adapter pins, or other hardware shall be provided by the employer for securing or blocking energy sources where necessary under this procedure.

(b) The lockout and tagout devices shall be singularly identified, shall be the only authorized device(s) used for locking out and tagging energy sources, shall not be used for other purposes, and shall meet the following requirements.

1. Durability: the devices shall be capable of withstanding the environment to which they are exposed for the maximum period of time that exposure is expected;
2. Standardized: the devices shall be standardized in at least one of the following criteria: color; shape; size type or format;
3. Substantial: locks shall be of such key code complexity that removal by any other means than the regular key would require excessive force or unusual techniques, such as metal cutting tools. Tags and attachment mechanisms shall be of such design that the possibility of accidental removal is minimized; and
4. Identifying: the devices shall include provisions for the identification of the employee(s) applying or authorizing the application of the device.

(c) Tagout devices/danger tags shall warn against hazardous conditions if the equipment is re-energized and shall include the legends: Do Not Start, Do Not Open, Do Not Close, Do Not Energize, or similar language.

### 12:100-11.6 Periodic inspection

(a) The employer shall conduct periodic inspections at least annually to ensure that the energy control procedures of this standard are being implemented. The inspections shall be:

1. Performed by an authorized employee other than the one implementing the energy control procedures; and
2. Designed to correct any deviations or inadequacies observed.

(b) The employer shall certify that the inspections have been performed. The certification shall identify the machines or equipment inspected, the date inspected and the name of the person performing the inspection.

### 12:100-11.7 Training and communication

(a) The employer shall provide training to ensure that the purpose and function of the energy control procedures are understood by employees and that the knowledge and skills required for the safe application and removal of energy controls are available as needed. The training shall include the following:

1. Authorized employees shall receive training in the recognition of applicable hazardous energy sources and in

the use of adequate methods and means for energy isolation and control;

2. Affected employees shall be instructed in the purpose and use of the energy control procedure; and

3. All other employees whose work operations are or may be affected by the energy control procedure shall be instructed about the procedure and how it affects their work operations.

(b) Periodic retraining shall be provided by the employer for all authorized and affected employees whenever a periodic inspection pursuant to N.J.A.C. 12:100-11.6 reveals, or whenever the employer has reason to believe, that there are deviations from or inadequacies in the energy control procedure. The retraining shall reestablish employee proficiency and introduce new or revised control methods and procedures, as necessary.

(c) The employer shall certify that employee training has been accomplished and is being kept up to date. The certification shall contain the employee's name and dates of training.

#### **12:100-11.8 Energy isolating devices**

(a) Energy isolating devices that are used for the control of potentially hazardous energy sources, including valves, shall be marked or labeled to identify the equipment supplied and the type and magnitude of the energy being controlled, unless they are so positioned and arranged that those elements are evident.

1. Valves for machines or equipment shall be permanently marked or labeled; and

2. Valves for pipeline network process operations shall be:

- i. Permanently marked or labeled; or
- ii. Temporarily marked or labeled prior to each instance of initiation of work on the line.

(b) Energy isolating devices shall be operated only by authorized employees or under the direct supervision of authorized employees.

#### **12:100-11.9 Notification of employees**

Affected employees shall be notified by the employer or authorized employee of the application and removal of lockout and tagout controls whenever such controls directly affect their work activities. Notification shall be given before such controls are applied, and before they are removed from the equipment or process.

#### **12:100-11.10 Application of control**

(a) The established procedure for the application of energy control (lockout/tagout) shall cover the following elements and actions and shall be in the following sequence:

1. Machine or equipment shutdown: the machine or equipment shall be turned off or shut down by authorized employees using appropriate procedures;

2. Machine or equipment isolation: all energy isolating devices that are needed to control the energy involved shall be physically located and operated in such a manner as to isolate the machine or equipment from the energy source(s);

3. Lockout and tagout device application: appropriate and effective lockout and tagout devices shall be affixed to each energy isolating device by authorized employees, and shall prevent or inhibit reactivation of energy isolation devices and shall be used as follows:

i. Lockout devices shall be affixed in a manner that will hold the energy isolating devices in a "safe" or "off" position;

ii. Tagout devices shall be affixed in such a manner as will clearly indicate that the operation or movement of energy isolating devices from the "safe" or "off" position is prohibited; and

iii. Where a tag cannot be affixed directly to the energy isolating device, the tag shall be located as close as safely possible to the device, in a position that will be immediately obvious to anyone attempting to operate the device.

4. Stored energy: following the application of lockout and tagout devices to energy isolating devices, all potentially hazardous, stored or residual energy shall be relieved, disconnected, restrained, and/or otherwise rendered safe.

i. If there is a possibility of reaccumulation of stored energy to a hazardous level, verification of isolation shall be continued until the activity is completed, or until the possibility of such accumulation no longer exists.

5. Verification of isolation: prior to starting work on equipment or processes that have been locked out and tagged out, an authorized employee shall take the steps necessary to verify that isolation and de-energization of the machine or equipment has been accomplished. The steps shall ensure that the lockout and tagout devices are so positioned or located as to isolate and de-energize the equipment or process effectively in accordance with (a)2 and 3 above and that stored energy has been rendered safe in accordance with (a)4 above.

#### **12:100-11.11 Release from control (lockout/tagout)**

(a) Before lockout and tagout devices are removed and energy is restored to the machine or equipment, procedures shall be followed and actions shall be taken by an authorized employee to ensure the following:

1. The work area shall be inspected for removal of nonessential items and to ensure that components are operationally intact and that all employees have been safely positioned or removed; and

2. Lockout and tagout devices shall be removed from each energy isolating device by the employee who applied the device, with the exception that devices may be removed under the direction of an authorized employee under the following conditions, and only where the authorized employees follow specific procedures which have been developed for those conditions:

i. When the employee who applied a personal lockout/tagout device is not available to remove the device; and

ii. Unique operating conditions involving complex systems, where the employer can demonstrate that it is not feasible to do otherwise.

#### 12:100-11.12 Additional requirements

(a) In situations where the energy isolating device(s) is locked and tagged, and there is a need to test or position the machine or equipment, the following sequence of actions shall be implemented:

1. Clear the machine or equipment of tools and materials and clear employees from the machine or equipment area in accordance with N.J.A.C. 12:100-11.11(a)1;

2. Clear the control of locks and tags with appropriate procedures in accordance with N.J.A.C. 12:100-11.11(a)2;

3. Energize and proceed with testing or positioning; and

4. De-energize all systems and reapply energy control measures in accordance with (d) below to continue the work.

(b) Whenever outside servicing personnel are to be engaged in activities covered by the scope and application of this subchapter, the plant or facility employer shall inform them of the lockout/tagout procedures used by the facility.

1. The plant or facility employer shall assure that the lockout/tagout procedures used by outside servicing personnel are compatible with existing in-plant procedures.

(c) When lockout and tagout devices are used by a crew, craft, department, or other group, the affected employees shall be afforded a level of protection equivalent to that provided by personal lockout and tagout devices.

1. Group lockout and tagout devices shall be used in accordance with the procedures required by N.J.A.C. 12:100-11.11(a)1, including, but not necessarily limited to, the following specific requirements:

i. Primary responsibility shall be vested in an authorized employee for a set number of employees working

under the protection of a particular group lockout and tagout device;

ii. Provision for the authorized employee to ascertain the exposure status of individual group members with regard to the lockout and tagout of the equipment or process; and

iii. When more than one crew, craft, department, etc., is involved, the responsibility of the overall job-associated lockout/tagout control shall be assigned to an authorized employee designated to coordinate affected work forces and ensure continuity of protection;

(d) Specific procedures shall be implemented during shift or personnel changes to ensure the continuity of lockout and tagout protection in accordance with N.J.A.C. 12:100-11.11(a)1. These procedures shall be developed as follows:

1. For the orderly transfer of lockout and tagout devices between off-going and oncoming employees which will eliminate exposure to hazards from the unexpected energization, start-up, or the release of stored energy of the equipment or process; and

2. To ensure that the equipment or process is being maintained in a safe condition so as to permit continued work by employees following the transfer of control over lockout and tagout devices.

## SUBCHAPTER 12. (RESERVED)

### Subchapter Historical Note

Subchapter 12, Asbestos, was repealed by R.1996 d.370, effective August 5, 1996. See: 28 N.J.R. 2507(a), 28 N.J.R. 3801(a).

## SUBCHAPTER 13. INDOOR AIR QUALITY STANDARD

### Authority

N.J.S.A. 34:16-27, 34:1-20, 34:1A-3 and 34:16-20 et seq., 29 U.S.C. §§ 701 et seq., and 34 C.F.R. 361.1 et seq.

### Source and Effective Date

R.1997 d.109, effective March 3, 1997.  
See: 28 N.J.R. 4564(a), 29 N.J.R. 796(a).

### 12:100-13.1 Scope

This subchapter shall apply to matters relating to indoor air quality in existing buildings occupied by public employees during their regular working hours.

**12:100-13.2 Definitions**

The following words and terms, when used in this subchapter, have the following meaning unless the context clearly indicates otherwise.

“Air contaminants” refers to substances contained in the vapors from paint, cleaning chemicals, pesticides, solvents, particulates, outdoor air pollutants and other airborne substances which together may cause material impairment to employees working within the enclosed workplace.

“Building-related illness” describes specific medical conditions of known etiology which can be documented by physical signs and laboratory findings. Such illnesses include sensory irritation when caused by known agents, respiratory allergies, asthma, nosocomial infections, humidifier fever, Legionnaires’ disease, and the signs and symptoms characteristic of exposure to chemical or biologic substances such as carbon monoxide, formaldehyde, pesticides, endotoxins, or mycotoxins.

“Building systems” includes the heating, ventilation and air-conditioning (HVAC) system, the energy management system and all other systems in a facility which may impact indoor air quality.

“Department” means the Department of Health and Senior Services.

“Designated person” means a person who has been given the responsibility by the employer to take necessary measures to assure compliance with this subchapter.

“Designated smoking area” means an area in a building, where smoking is permitted and which is physically separated from non-smoking areas and which non-smokers are not required to enter or pass through.

“Employee” means the term as defined at N.J.A.C. 12:100-2.1.

“Employer” means the term as defined at N.J.A.C. 12:100-2.1.

“HVAC system” means the collective components of the heating, ventilation and air-conditioning system including, but not limited to, filters and frames, cooling coil condensate drip pans and drainage piping, outside air dampers and actuators, humidifiers, air distribution ductwork, automatic temperature controls, and cooling towers.

“HVAC System Commissioning Report” means a document normally prepared by an architect or engineer that provides verification that the HVAC system is operating in conformity with the design intent.

“Office building” means a building in which administrative and/or clerical activities are conducted. Examples of facilities and/or operations which are not office buildings include schools, repair shops, garages and print shops.

“Renovation and remodeling” means building modification involving activities that include but are not limited to: removal or replacement of walls, roofing, ceilings, floors, carpet, and components such as moldings, cabinets, doors, and windows; painting; decorating; demolition; surface refinishing; and removal or cleaning of ventilation ducts.

**12:100-13.3 Compliance program**

(a) The employer shall identify a designated person who is given the responsibility to assure compliance with this section. The designated person shall assure that at least the following actions are implemented and documented:

1. Establishing and following a preventive maintenance schedule in accordance with the manufacturer’s recommendations or with accepted practice for the HVAC system. Scheduled maintenance of the HVAC system shall include checking and/or changing air filters, checking and/or changing belts, lubrication of equipment parts, checking the functioning of motors and confirming that all equipment is in operating order. Damaged or inoperable components shall be replaced or repaired as appropriate. Additionally, any reservoirs or parts of this system with standing water shall be checked visually for microbial growth;

2. Implementing the use of general or local exhaust ventilation where housekeeping and maintenance activities involve use of equipment or products that could reasonably be expected to result in hazardous chemical or particulate exposures, above the applicable Permissible Exposure Limit (PEL), as adopted by reference under N.J.A.C. 12:100-4.2, to employees working in other areas of the building or facility;

3. When the carbon dioxide level exceeds 1,000 parts per million (ppm), the employer shall check to make sure the HVAC system is operating as it should. If it is not, the employer shall take necessary steps as outlined in (a)1 above;

4. When temperatures in office buildings are outside of the range of 68 to 79 degrees Fahrenheit, the employer shall check to make sure the HVAC system is in proper operating order. If it is not, the employer shall take necessary steps as outlined in (a)1 above;

5. If contamination of the make-up air supply is identified and documented, then the make-up inlets and/or exhaust air outlets shall be relocated or the source of the contamination eliminated. Sources of make-up air contamination may include contaminants from sources such as cooling towers, sanitary vents, vehicular exhausts from parking garages, loading docks, and street traffic;

6. Assuring that buildings without mechanical ventilation are maintained so that windows, doors, vents, stacks and other portals designed or used for natural ventilation are in operable condition; and

7. Promptly investigating all employee complaints of signs or symptoms that may be associated with building-related illness.

#### **12:100-13.4 Controls of specific contaminant sources**

(a) In workplaces where the employer has established designated smoking areas, the following shall apply:

1. Smoking shall be permitted only in such areas;

2. The employer shall assure that designated smoking areas are enclosed, exhausted directly to the outside, and are maintained under negative pressure (with respect to surrounding spaces) sufficient to contain tobacco smoke within the designated area;

3. The employer shall assure that cleaning and maintenance work in designated smoking areas is conducted only when no smoking is taking place;

4. The employer shall assure that employees are not required to enter designated smoking areas in the performance of normal work activities;

5. The employer shall post signs clearly indicating areas that are designated smoking areas;

6. The employer shall post signs that will clearly inform anyone entering the workplace that smoking is restricted to designated areas; and

7. The employer shall prohibit smoking within designated smoking areas during any period that the exhaust ventilation system servicing that area is not properly operating.

(b) Regarding other indoor air contaminants, when general ventilation is inadequate to control air contaminants emitted from point sources within work spaces to below the applicable PEL, as adopted by reference under N.J.A.C. 12:100-4.2, the employer shall implement other control measures such as local source capture exhaust ventilation or substitution.

(c) The employer shall control microbial contamination in the building by promptly repairing water leaks that can promote growth of biologic agents, or shall control microbial contamination in the building by promptly drying, replacing, removing, or cleaning damp or wet materials. The employer shall take measures to remove visible microbial contamination in ductwork, humidifiers, other HVAC and building system components, or on building surfaces, such as carpeting and ceiling tiles, when found during regular or emergency maintenance activities or during visual inspection.

#### **12:100-13.5 Air quality during renovation and remodeling**

(a) Renovation work and/or new construction that results in the diffusion of dust, stone and other small particles, toxic gases or other harmful substances in quantities hazardous to health shall be safeguarded by means of local ventilation or other protective devices to ensure the safety of employees. Renovation areas in occupied buildings shall be isolated and dust and debris shall be confined to the renovation or construction area.

(b) Before use of paints, adhesives, sealants, solvents, or installation of insulation, particle board, plywood, floor coverings, carpet backing, textiles, or other materials in the course of renovation or construction, the employer shall check product labels or seek and obtain information from the manufacturers of those products on whether or not they contain volatile organic compounds such as solvents, formaldehyde or isocyanates that could be emitted during regular use. This information shall be used to select products and to determine necessary measures to be taken to comply with this section.

(c) The employer shall notify employees at least 24 hours in advance, or promptly in emergency situations, of work to be performed on the building that may introduce air contaminants into their work area.

#### **12:100-13.6 Recordkeeping**

(a) The maintenance schedule shall be updated to show all maintenance performed on the building systems. The schedule shall include the date that such maintenance was performed and the name of the person or company performing the work.

(b) The records required to be maintained by this section shall be retained for at least three years and be available on request to employees and employee representatives and Department representatives for examination and copying.

#### **12:100-13.7 Employer's response to a signed complaint**

(a) Within 15 working days of receipt of the complaint notification from the Department, the employer shall respond in writing to the Department. The response may include any combination of the following:

1. A statement that the complaint is unfounded;
2. A description of any remedial action already taken;
3. An outline of any remedial measures planned but not yet taken with a timetable for completion; and/or
4. A statement that a study of the problem, with a timetable for completion of the study, has been initiated.

(b) Where remedial measures are planned or a study initiated, they shall be completed as soon as feasible. The employer shall submit, to the Department, a written report describing the remedial measures implemented and/or a

copy of a study's report within 15 working days of completion.

(c) Permits for remedial work shall be obtained as required by N.J.A.C. 5:23 (the New Jersey Uniform Construction Code). All work requiring a permit shall be performed in compliance with N.J.A.C. 5:23.

#### **12:100-13.8 Indoor air quality (IAQ) compliance documents**

(a) In response to an employee complaint to the Department, the employer shall provide any of the following documents, if available, and requested by the Department:

1. As-built construction documents;
2. HVAC system commissioning reports;
3. HVAC systems testing, adjusting and balancing reports;
4. Operations and maintenance manuals;
5. Water treatment logs; and
6. Operator training materials.

#### **SUBCHAPTERS 14 THROUGH 16. (RESERVED)**

#### **SUBCHAPTER 17. STANDARDS AND PUBLICATIONS REFERRED TO IN THIS CHAPTER**

##### **12:100-17.1 Documents referred to by reference**

(a) The full title and edition of each of the standards or publications referred to in this chapter are as follows:

1. ANSI Z9.2-1979, Design and Operation of Local Exhaust Systems;
2. ANSI Z88.5-1981, Respiratory Protection for the Fire Service;
3. ANSI Z88.6-1984, Respiratory Protection-Respiratory Use-Physical Qualifications for Personnel;
4. Asbestos Policy Committee Report to the Governor, March, 1985;
5. 29 CFR Part 1910, General Industry Standards;
6. 29 CFR Part 1926, Construction Industry Standards;
7. 29 CFR Part 1926, Agriculture;
8. 30 CFR Part 11, Respirators;

9. NIOSH Method 7400, Microscopy Measurement of Asbestos Fiber, February 15, 1984;

10. ANSI/CGA G7.1-1989, Commodity Specification for Air;

11. CGA P15-1985, Filling of Industrial and Medical Nonflammable Compressed Gas Cylinders;

12. NFPA No. 1971-1986, Protective Clothing for Structural Firefighting;

13. NFPA No. 1972-1987, Structural Firefighters Helmets;

14. NFPA No. 1973-1988, Gloves for Structural Firefighters;

15. NFPA No. 1974-1987, Standard on Protective Footwear for Structural Firefighting;

16. NFPA No. 1975-1985, Station/Work Uniforms for Firefighting;

17. NFPA No. 1981-1986, Self-contained Breathing Apparatus for Firefighters;

18. NFPA No. 1982-1988, Personal Alert Safety System for Firefighters (PASS);

19. NFPA No. 1983-1985, Fire Service Life-Safety Rope, Harnesses, and Hardware;

20. NFPA No. 1901-1991, Pumper Fire Apparatus;

21. NFPA No. 1902-1991, Initial Fire Apparatus;

22. NFPA No. 1903-1991, Mobile Water Supply Fire Apparatus;

23. NFPA No. 1904-1991, Aerial Ladder and Elevating Platform Apparatus;

24. N.J.A.C. 5:23, Uniform Construction Code;

25. N.J.A.C. 7:26, Solid Waste Regulations;

26. N.J.A.C. 12:120, Asbestos Licenses and Permits;

27. N.J.S.A. 34:6A-25 et seq., New Jersey Public Employees Occupational Safety and Health Act; and

28. N.J.S.A. 34:13A-1 et seq., Employer-Employee Relations Act.

Amended by R.1993 d.28, effective January 4, 1993.

See: 24 N.J.R. 73(a), 25 N.J.R. 180(b).

Revised (a)2; added new (a)3; redesignated existing (a)3-8 as (a)4-9; added new (a)10-23; redesignated existing (a)9-13 as (a)24-28.

Amended by R.1994 d.492, effective September 19, 1994.

See: 26 N.J.R. 2776(a), 26 N.J.R. 3872(b).

##### **12:100-17.2 Availability of documents for inspection**

A copy of each of the standards and publications referred to in this chapter is on file and may be inspected at the following Office of the Division of Workplace Standards between the hours of 9:00 A.M. and 4:00 P.M. on normal working days:



New Jersey Department of Labor  
Division of Workplace Standards  
36 West State Street, Room 313  
Trenton, New Jersey

**12:100-17.3 Availability of documents from issuing organization**

Copies of the standards and publications referred to in this chapter may be obtained from the organizations listed below. The abbreviations preceding these standards and publications have the following meaning, and are the organizations issuing the standards and publications listed in N.J.A.C. 12:100-17.1.

ANSI	American National Standards Institute 1430 Broadway New York, New York 10018
CFR	Code of Federal Regulations Copies available from: Superintendent of Documents Government Printing Office Washington, D.C. 20402
CGA	Compressed Gas Association Inc.

NFPA	1235 Jefferson Davis Highway, Suite 509 Arlington, VA 22202 National Fire Protection Association Batterymarch Park Quincy, MA 02269
NIOSH	National Institute of Occupational Safety and Health Division of Technical Services Cincinnati, Ohio 45226
NJAC	New Jersey Administrative Code Copies available from: Office of Public Employee Safety N.J. Department of Labor CN 386 Trenton, NJ 08625-0386
NJSA	New Jersey Statutes Annotated Copies available from: Division of Workplace Standards New Jersey Department of Labor CN 054 Trenton, NJ 08625-0054

Amended by R.1993 d.28, effective January 4, 1993.  
See: 24 N.J.R. 73(a), 25 N.J.R. 180(b).  
Added "CGA" and "NFPA".