CHAPTER 70

UNIFORM FIRE CODE

Authority

N.J.S.A. 52:27D–198, 201 and 219.

Source and Effective Date

R.1995 d.58, effective January 3, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

Executive Order No. 66(1978) Expiration Date

Chapter 70, Uniform Fire Code, expires on January 3, 2000.

Chapter Historical Note

Chapter 70, Congregate Housing Services Program, was adopted as R.1982 d.272, effective August 16, 1982. See: 14 N.J.R. 609(b), 14 N.J.R. 912(b). Pursuant to Executive Order No. 66(1978), Chapter 70, Congregate Housing Services Program,was readopted as R.1987 d.315, effective July 9, 1987. See: 19 N.J.R. 678(a), 19 N.J.R. 1430(a). Pursuant to Executive Order No. 66(1978), Chapter 70, Congregate Housing Services Program, was readopted as R.1992 d.214, effective April 22, 1992. See: 24 N.J.R. 513(c), 24 N.J.R. 1880(a). Pursuant to Executive Order No. 66(1978), Chapter 70, Congregate Housing Services Program, expired on April 22, 1997.

Chapter 70, Uniform Fire Code, was originally codified in Title 5 as Chapter 18, Uniform Fire Code. Chapter 18 was adopted as R.1985 d.66, effective February 19, 1985. See: 16 N.J.R. 3339(b), 17 N.J.R. 394(a).

Subchapter 4, Fire Safety Code, was adopted as R.1986 d.214, effective June 16, 1986. See: 17 N.J.R. 1161(a), 18 N.J.R. 1260(b).

Pursuant to Executive Order No. 66(1978), Chapter 18, Uniform Fire Code, was readopted as R.1990 d.72, effective January 4, 1990. See: 21 N.J.R. 3344(a), 22 N.J.R. 337(b).

Subchapter 3, State Fire Prevention Code, was repealed, and Subchapter 3, State Fire Prevention Code, was adopted as new rules by R.1992 d.105, effective March 2, 1992. See: 23 N.J.R. 3554(a), 24 N.J.R. 740(a).

Pursuant to Executive Order No. 66(1978), Chapter 18, Uniform Fire Code, was readopted as R.1995 d.58, effective January 3, 1995. See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

Pursuant to Reorganization Plan No. 002–1998, Chapter 18, Uniform Fire Code, was recodified as N.J.A.C. 5:70, effective July 1, 1998. See: 30 N.J.R. 1347(a), 30 N.J.R. 2644(a).

Cross References

Child care center physical facility requirements, see N.J.A.C. 10:122–5.1 et seq.

Children's group home physical facility requirements, see N.J.A.C. 10:128–4.1 et seq.

Children's shelter physical facility and life-safety requirements, see N.J.A.C. 10:124–5.1 et seq.

Residential child care physical facility requirements, see N.J.A.C. 10:127–4.1.

CHAPTER TABLE OF CONTENTS

New Jersey State Library

SUBCHAPTER 1. GENERAL PROVISIONS

5:70–1.1 Title; division into subchapters

(a) The regulations contained in this chapter shall be known as the "New Jersey Uniform Fire Code" and are referred to herein as the Code.

(b) The Code is divided into four subchapters:

1. N.J.A.C. 5:70–1, entitled "General Provisions";

2. N.J.A.C. 5:70–2, entitled "Administration and Enforcement";

3. N.J.A.C. 5:70–3, entitled "State Fire Prevention Code"; and

4. N.J.A.C. 5:70–4, entitled "State Fire Safety Code."

Amended by R.1985 d.611, effective December 2, 1985.
See: 17 N.J.R. 1015(b), 17 N.J.R. 2870(a).
(b)3 substituted "1984" for "latest".
Amended by R.1986 d.214, effective June 16, 1986.
See: 17 N.J.R. 1161(a), 18 N.J.R. 1260(b).
(b)4 deleted "(Reserved)" and added text "is entitled "Fire ... as this subchapter."
Amended by R.1992 d.104, effective March 2, 1992.
See: 23 N.J.R. 3552(a), 24 N.J.R. 739(a).
Text referencing BOCA deleted.
Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–1.2 Authority

This Code is promulgated by the Commissioner of the Department of Community Affairs pursuant to authority of the "Uniform Fire Safety Act" (P.L. 1983, c.383, N.J.S.A. 52:27D–192 et seq.).

5:70–1.3 Intent and purpose

(a) It is the intent of this Code to prescribe regulations consistent with nationally recognized good practice for the safeguarding to a reasonable degree of life and property from the hazards of fire and explosion arising from the storage, handling and use of hazardous substances, materials and devices, and from conditions hazardous to life or property in the use or occupancy of buildings or premises.

(b) Where no specific standards or requirements are specified in this Code, or contained within other applicable laws (or adopted codes) or ordinances, compliance with the standards of the National Fire Protection Association or other nationally recognized fire-safety standards as are approved by the fire official shall be deemed as prima facie evidence of compliance with the stated intent of this Code.

Amended by R.1985 d.611, effective December 2, 1985.
See: 17 N.J.R. 1015(b), 17 N.J.R. 2870(a).
Substituted "Prevention" for "Protection".
Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–1.4 Applicability

(a) The provisions of this Code shall apply to new and existing buildings, uses and conditions, as hereinafter provided.

(b) The provisions contained in this Code shall not be construed as applying to the transportation of any article or substance shipped under the jurisdiction of and in compliance with the regulations prescribed by the military forces of the United States or the transportation of flammable or combustible liquids or hazardous materials or chemicals subject to the regulation and control of the New Jersey Department of Transportation or the United States Department of Transportation or other Federal Agency having jurisdiction.

1. The fire official shall have jurisdiction to order the correction of any dangerous condition created by any transportation conveyance.

2. The right of any local government to adopt ordinances governing the routing of vehicles transporting flammable or combustible liquids or hazardous materials or chemicals shall not be deemed to be limited by anything contained in this section.

3. If the hearing request is made in accordance with the 15 day provision, a hearing shall be held and a final decision issued within seven working days.

Amended by R.1987 d.247, effective June 15, 1987.
See: 18 N.J.R. 1225(a), 19 N.J.R. 1078(a).
Old text deleted and new text substituted.
Administrative correction to (a)2.
See: 21 N.J.R. 3085(a).
Amended by R.1993 d.628, effective December 6, 1993.
See: 25 N.J.R. 4363(a), 25 N.J.R. 5466(a).
Recodified from 5:18–2.11 and amended by R.1995, d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–2.20 Identifying emblems for structures with truss construction

(a) Identifying emblems shall be permanently affixed to the front of structures with truss construction.

1. The emblem shall be of a bright and reflective color, or made of reflective material. The shape of the emblem shall be an isosceles triangle and the size shall be 12 inches horizontally by six inches vertically. The following letters, of a size and color to make them conspicuous, shall be printed on the emblem:

i. "F" to signify a floor with truss construction;

ii. "R" to signify a roof with truss construction; or

iii. "F/R" to signify both a floor and roof with truss construction.

2. The emblem shall be permanently affixed to the left of the main entrance door at a height between four and six feet above the ground and shall be installed and maintained by the owner of the building.

(b) Detached one and two family residential structures with truss construction that are not part of a planned real estate development shall be exempt from the requirements of (a) above, unless otherwise provided by municipal ordinance.

(c) Individual structures and dwelling units with truss construction that are part of a planned real estate development shall not be required to have an identifying emblem if there is an emblem affixed at each entrance to the development.

New Rule, R.1992 d.5, effective January 6, 1992.
See: 23 N.J.R. 2168(a), 24 N.J.R. 89(a).
Recodified from 5:18–2.19 by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–2.21 (Reserved)

5:70–2.22 Registration of carnivals

(a) No carnival shall be operated at any time or at any location unless a carnival registration certificate has been issued by the Division.

(b) The owner of every carnival shall apply for a carnival registration certificate at least 30 days before the first intended operation. The application shall include the following:

1. Dates and locations of intended operation;

2. All uses requiring a permit under N.J.A.C. 5:70–2.7;

3. Complete plans for all mobile enclosed structures to be used for human occupancy;

4. Flame spread certifications, seating and usage diagrams for all tents;

5. Certificate of insurance;

6. Name, address and telephone number of the owner(s) of the carnival; and

7. Name of the person who will be with the carnival and will be responsible for securing all permits required by N.J.A.C. 5:70–2.7 and for the correction of any violations of this Code.

(c) Upon review and approval of the application, the Division will issue a carnival registration certificate to the owner. Additionally, copies shall be provided to all local enforcing agencies identified on the submitted schedule.

1. The certificate must be maintained by the responsible party identified pursuant to (b)7 above at all show locations and be available for inspection by the fire official.

2. Possession of a carnival registration certificate shall not relieve the owner of responsibility for obtaining permits as required by N.J.A.C. 5:70–2.7 or for otherwise complying with the requirements of this chapter.

(d) Any application for a carnival registration certificate shall be accompanied by the fee as set forth in N.J.A.C. 5:70–2.8.

(e) A carnival registration certificate issued by the Division shall be valid for a period of one year from the date that appears on the certificate.

1. Carnival registration certificates shall not be transferable.

2. A registration certificate shall be subject to revocation in the event that any change is made to the itinerary submitted on the original application and the Division is not provided with an amended itinerary at least 30 days prior to the event.

3. If the Division revokes a certificate previously issued, a new application package, as specified in (b) above, and a fee, as specified at N.J.A.C. 5:70–2.9(e), shall be submitted.

4. Any person who is required to obtain a registration certificate and who fails to do so shall be subject to a penalty, as specified at N.J.A.C. 5:70–2.12(b)8iii.

New Rule, R.1995 d.59, effective March 6, 1995.
See: 26 N.J.R. 4249(a), 27 N.J.R. 891(a).
Amended by R.1997 d.247, effective June 16, 1997.
See: 29 N.J.R. 967(a), 29 N.J.R. 2653(b).
Added (e).

SUBCHAPTER 3. STATE FIRE PREVENTION CODE

5:70–3.1 Purpose and scope

(a) The purpose of this subchapter is to prescribe minimum requirements and controls to safeguard life, property, or public welfare from the hazards of fire and explosion.

(b) This subchapter shall be applicable to:

1. All buildings, structures, and premises within this State, with the exception of owner-occupied one and two-family dwellings used exclusively for dwelling purposes within this State; and

2. All fire safety hazards arising from the storage, handling or use of substances, materials or devices and arising from conditions hazardous to life, property or public welfare in the use or occupancy of buildings, structures, sheds, tents, lots or premises.

3. Buildings or other facilities built under and in full compliance with the codes in force at the time of construction or alteration thereof, and that have been properly maintained and used for such use as originally permitted, shall be exempt from the requirements of this subchapter pertaining to any of the following matters:

i. Fire protection of structural elements except as provided for existing buildings under the Uniform Construction Code;

ii. Isolation of hazardous operations: provided, however, that the fire official may require the installation of fire safety devices or systems (fire extinguishers, fire alarms, fire detection devices, sprinklers or similar systems) where, in the judgment of the fire official, they are necessary to provide safety to life and property.

iii. In lieu of requiring the installation of safety devices or systems or when necessary to secure safety in addition thereto, the fire official may prescribe limitations on the handling and storage of materials or substances or upon operations that are liable to cause fire, contribute to the spread of fire, or endanger life or property.

(c) Whenever, in this subchapter, reference is made to the Appendix, the provisions in the Appendix shall not apply unless specifically adopted herein.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added "used exclusively for dwelling purposes" at (b)1.

Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

Case Notes

Term "individual dwelling unit" in Uniform Fire Code has same meaning as term "dwelling unit" in Uniform Fire Safety Act; term thus applies to both permanent and transient occupancies. Venuti v. Cape May County Const. Bd. of Appeals, 231 N.J.Super. 546, 555 A.2d 1175 (A.D.1989).

Hotel and motel rooms with cooking facilities are "individual dwelling units" and thus exempt from Uniform Fire Code requirements for fire suppression systems. Venuti v. Cape May County Const. Bd. of Appeals, 231 N.J.Super. 546, 555 A.2d 1175 (A.D.1989).

Municipal subcode official did not have authority to require portable fire extinguishers to be placed in motel and hotel efficiency units with cooking facilities. Venuti v. Cape May County Const. Bd. of Appeals, 231 N.J.Super. 546, 555 A.2d 1175 (A.D.1989).

5:70–3.2 Definitions

The following terms shall have the meanings indicated except where the context clearly requires otherwise. Where a term is not defined then the definition of that term found in this code at N.J.A.C. 5:70–1.5 or within the Uniform Construction Code at N.J.A.C. 5:23–1.4 shall govern:

"Acetylene, low pressure" means acetylene at a pressure not exceeding one pound per square inch gauge (psig).

"Acetylene, medium pressure" means acetylene at pressures exceeding one psig but not exceeding 15 psig.

"Acetylenic compound" means a material, like acetylene, having a triple bond between two carbon atoms.

"Agent" means any person who shall have charge, care or control of any buildings as owner, or agent of the owner, or as executor, executrix, administrator, administratrix, trustee or guardian of the estate of the owner. Any such person representing the actual owner shall be bound to comply with the provisions of this code to the same extent as if that person were the owner.

"Air supported structure" means a structural and mechanical system, which is constructed of high strength fabric or film and achieves its shape, stability and support by pretensioning with internal air pressure.

"Alarm" means any audible or visible signal or intelligence indicating existence of a supposed fire or emergency requiring response and emergency action on the part of the fire fighting service. Also, the alarm devices or device by which fire and emergency signals are received.

"Approved" means approved by the fire official or the Department.

"Automatic detecting device" means a device which automatically detects heat, smoke or other products of combustion.

"Automatic fire alarm system" means a fire alarm system containing automatic detecting device(s) which actuates a fire alarm signal and which may contain manual fire alarm devices.

"Automatic fire suppression system" means an engineered system using carbon dioxide (CO_2), dry chemical, a halogenated extinguishing agent, or an automatic sprinkler system to automatically detect and suppress a fire through fixed piping and nozzles.

"Automatic sprinkler system" for fire protection purposes means an integrated sprinkler system of underground and/or overhead piping designed in accordance with fire protection engineering standards. The system includes a suitable water supply. The portion of the system aboveground is a network of specially sized or hydraulically designed piping installed in a building, structure or area, generally overhead, and to which automatic sprinklers are connected in a systematic pattern. The system is usually activated by heat from a fire and discharges water over the fire area.

"Automatic water supply" means water supplied through a gravity or pressure tank or automatically operated fire pumps, or from a direct connection to an approved municipal water main.

"Blasting agent" means any material or mixture consisting of a fuel and oxidizer intended for blasting, not otherwise classified as an explosive, in which none of the ingredients are classified as explosives, provided that the finished product, as mixed and packaged for use or shipment, cannot be detonated by means of a No. 8 test blasting cap when unconfined. Materials or mixtures classified as nitro carbo nitrates by U.S. Department of Transportation (DOT) regulations shall be included in this definition.

"Boiling point" means the temperature at which the vapor pressure of a liquid equals the atmospheric pressure of 14.7 pounds per square inch gauge (psig) of mercury. Where an accurate boiling point is unavailable for the material in question, or for mixtures which do not have a constant boiling point, for purposes of this classification, the 10 percent of a distillation performed in accordance with ASTM D86 listed in Appendix 3–A, incorporated herein by reference, may be used as the boiling point of the liquid.

"Bonfire" means a large, public, open-air fire kindled to mark or highlight some public event.

"Building Code" means the New Jersey Uniform Construction Code (N.J.A.C. 5:23), including all of its component subcodes.

"Building code in effect at the time of first occupancy" means the building code regulations in effect at the time the specific occupancy use, or operation, was legally established.

"Carbon dioxide (CO_2) extinguishing system" means a system to supply carbon dioxide (CO_2) from a pressurized vessel through fixed pipes and nozzles. The system includes an automatic detection and actuating mechanism.

"Catalytic combustion system" means an oven heater or any construction that employs catalysts to accelerate oxidization or combustion of fuel-air or fume-air mixtures for eventual release of heat to an oven process.

"Central station system" means a system, or group of systems, the operations of which are signaled to, recorded in, maintained and supervised from an approved central station, in which there are competent and experienced observers and operators in attendance at all times whose duty it shall be, upon receipt of a signal, to take such action as shall be required under the rules established for their guidance. Such systems shall be controlled and operated by a person, firm or corporation whose principal business is the furnishing and maintaining of supervised protective signaling service and who does not have interest in the protected properties.

"Combustible fibers" means readily ignitable and free burning fibers, such as cotton, sisal, henequen, ixtel, jute, hemp, tow, cocoa fiber, oakum, baled waste paper, kapok, hay, straw, Spanish moss, excelsior, certain synthetic fibers and other like materials.

"Combustible liquids" means any liquid having a flash point at or above 100 degrees Fahrenheit. Combustible liquids shall be known as Class II or III liquids and shall be divided into the following classifications:

1. Class II: Liquids have a flash point at or above 100 degrees F. and below 140 degrees Fahrenheit;

2. Class IIIA: Liquids having flash points at or above 140 degrees F. and below 200 degrees Fahrenheit; and

3. Class IIIB: Liquids having flash points at or above 200 degrees Fahrenheit.

"Combustible waste matter" means magazines, books, trimmings from lawns, trees or flower gardens, leaves, pasteboard boxes, rags, paper, straw, sawdust, packing material, shavings, boxes and all rubbish and refuse that will ignite through contact with flames or ordinary temperatures.

"Compressed gas" means any mixture or material, when enclosed in a container, having either a vapor pressure of 40 psia at 70 degrees Fahrenheit, or a vapor pressure of 140 psia at 130 degrees Fahrenheit; or any flammable material having a vapor pressure exceeding 40 psia at 100 degrees Fahrenheit, as determined by ASTM D323 (Reid Method) listed in Appendix 3–A, incorporated herein by reference.

"Construction official" means the officer or other designated authority charged with the administration and enforcement of the building code.

"Cooking appliances" means all ranges, ovens, food boilers, upright broilers, charcoal broilers, char-broilers, griddles, deep-fat fryers or similar appliances used to heat, cook or process food for human or animal consumption.

"Cooking fire" means an outdoor fire which is used to prepare food.

"Corrosive liquid" means those acids, alkaline caustic liquids and other corrosive liquids which, when in contact with living tissue, will cause damage to such tissue by chemical action; or in case of leakage will materially damage or destroy other containers of other hazardous commodities by chemical action and cause the release of their contents; or are liable to cause fire when in contact with organic matter or with certain chemicals.

"Cryogenic liquid" means those liquids that have a boiling point below –200 degrees Fahrenheit.

"Cryogenic vessel" means any pressure vessel, low pressure tank, or atmospheric tank on which venting, insulation, refrigeration, or a combination of these, are used in order to maintain the operating pressure, and the contents in a liquid phase.

"Decorative material" means all materials such as curtains, draperies, streamers, surface coverings applied over the building finish for decorative, acoustical or other effect, and also cloth, cotton batting, straw, vines, leaves, trees and moss used for decorative effect.

"Detector, smoke" means an approved, listed detector for sensing visible or invisible products or combustion.

"Dispensing" means the pouring or transferring of any material from a container, tank or similar vessel whereby vapors, dusts, mists or gases may be released to the atmosphere.

"DOT container" means any container approved by DOT 49CFR listed in Appendix 3–A, incorporated herein by reference, for shipping any liquid, gaseous or solid material of a flammable, toxic or other hazardous nature.

"Dry chemical" means a powder composed of small particles, usually of sodium bicarbonate, potassium chloride, potassium bicarbonate, potassium bicarbonate/urea or ammonium phosphate, with added particular material supplemented by special treatment to prevent caking and provide flowability.

"Dry chemical extinguishing system" means a system consisting of dry chemical and expellant gas storage tanks, fixed piping, and nozzles used to assure proper distribution of an approved extinguishing agent on a specific fire hazard or into a potential fire area. The system includes an automatic detection and actuating mechanism.

"Dry cleaning" means the process of removing dirt, grease, paint and other stains from wearing apparel, textiles, fabrics, rugs, etc., by the use of nonaqueous liquid solvents, flammable or nonflammable, and it shall include the process of dyeing clothes or other fabrics or textiles in a solution of dye colors and nonaqueous liquid solvents.

"Dry pipe system" as applied to water fire suppression systems, shall mean a system of piping which is filled with air under pressure and a permanent water supply is controlled by an approved automatic dry pipe valve which releases the water supply by the release of air in the event of fire.

"Dry system" as applied to water fire suppression systems, shall mean a system without permanent or automatic water supply but equipped with a fire department connection.

"Egress" see "means of egress."

"Engineered system" means a functional unit requiring individual calculation and design to determine the flow rates, nozzle pressures, quantities of extinguishing agent and the number and types of nozzles and their placement for the protection of a specific hazard.

"Explosive" means a chemical compound or mechanical mixture, that is commonly used or intended for the purpose of producing an explosion, that contains any oxidizing and combustible units, or other ingredients, in such proportions, quantities, or packing, that an ignition by fire, by friction, by concussion, by percussion, or by detonation of any part of the compound or mixture may cause such a sudden generation of highly heated gases that the resultant gaseous pressures are capable of producing destructive effects on contiguous objects or of destroying life and limb. The term "explosive" includes all materials classified as Class A, Class B or Class C explosives by DOT regulations and includes, but is not limited to, dynamite, black powder, pellet powders, initiating explosives, blasting caps, electric blasting caps, safety fuse, fuse igniters, fuse lighters, squibs, conreau detonant fuse, instantaneous fuse, ignitor cord and igniters.

"Explosive-actuated power device" means any tool or special mechanized device which is actuated by explosives, but not to include propellant-actuated power devices. Examples of explosive-actuated power devices are jet tappers and jet perforators.

"Fire alarm system" means a functionally related group of devices that when either automatically or manually activated will sound audio or visual warning devices on or off the protected premises and may control other devices or equipment.

"Fire department connection" means a connection on a building for fire department use in supplementing or supplying water for standpipes and sprinkler systems. Also 2½ inch standpipe outlets provided for attaching fire department hose as contrasted with outlets for small first aid hose.

"Fire door" means a door and its assembly, so constructed and assembled in place as to give protection against the passage of fire.

"Fire hazard" means any thing or act which increases or may cause an increase of the hazard or menace of fire to a greater degree than that customarily recognized by persons in the public service regularly engaged in preventing, suppressing or extinguishing fire; or which may obstruct, delay, hinder or interfere with the operations of the fire department or the egress of occupants in the event of fire.

"Fire inspector" means a person working under the direction of the fire official who is certified by the Commissioner of the Department of Community Affairs and appointed or designated to enforce the Code by the appointing authority of a local enforcing agency.

"Fire official" means a person certified by the Commissioner of the Department of Community Affairs and appointed or designated to direct the enforcement of the Code by the appointing authority of a local enforcing agency.

"Fire prevention" means the preventive measures which provide for the safe conduct and operation of hazardous processes, storage of combustible and flammable materials, conducting of fire drills and the maintenance of fire protection, detection and extinguishing service equipment and good housekeeping conditions. That part of fire protection activities exercised in advance of the outbreak of fire to prevent such outbreaks and to minimize loss when fire does occur.

"Fire protection system" means a system including systems, devices and equipment to detect a fire, actuate an alarm or suppress fire or any combination thereof.

"Flammable" means capable of burning or producing flame at ordinary temperatures, or easily being ignited.

"Flammable anesthetic" means a compressed gas which is flammable and administered as an anesthetic and shall include among others, cyclopropane, divinyl ether, ethyl chloride, ethyl ether and ethylene.

"Flammable compressed gas" means a gas that when either: a mixture of 13 percent or less (by volume) with air forms a flammable mixture; or, the flammable range with air is wider than 12 percent regardless of the lower limit.

"Flammable cryogenic liquid" means those cryogenic liquids which are flammable in their vapor state.

"Flammable liquid" means any liquid having a flash point below 100 degrees Fahrenheit, and having a vapor pressure not exceeding 40 psia at 100 degrees Fahrenheit. Flammable liquids shall be known as Class I liquids and be divided into the following classifications:

1. Class IA: Liquids having flash points below 73 degrees Fahrenheit and having a boiling point below 100 degrees Fahrenheit;

2. Class IB: Liquids having flash points below 73 degrees Fahrenheit and having a boiling point at or above 100 degrees Fahrenheit; and

3. Class IC: Liquids having flash points at or above 73 degrees Fahrenheit and below 100 degrees Fahrenheit.

(See "combustible liquids" for Class II or III liquids.)

"Flammable liquid gas" means a "liquified compressed gas" which under the charged pressure is partially liquid at a temperature 70 degrees Fahrenheit and which is flammable.

"Flammable solid" means a solid substance, other than one classified as an explosive, which is liable to cause fires through friction, through absorption of moisture, through spontaneous chemical changes, or as a result of retained heat from manufacturing or processing.

"Flash point" means the minimum temperature in degrees Fahrenheit at which a flammable liquid will give off sufficient vapors to form an ignitable mixture with air near the surface or in the container, but will not sustain combustion. The flash point of a liquid shall be determined by appropriate test procedure and apparatus as specified in ASTM D56 and ASTM D93 listed in Appendix 3–A, incorporated herein by reference.

"Foam extinguishing system" means a special system to discharge a foam made from concentrates, either mechanically or chemically, over the area to be protected.

"Fuel gas" means acetylene, hydrogen, LP-Gas, and other liquefied and nonliquefied flammable gases.

"Fumigant" means any substance which by itself or in combination with any other substance emits or liberates a gas, fume or vapor used for the destruction or control of insects, fungi, vermin, germs, rats, or other pests, and shall be distinguished from insecticides and disinfectants which are essentially effective in the solid or liquid phases. Examples are methyl bromide, ethylene dibromide, hydrogen cyanide, carbon disulphide and sulfuryl fluoride.

"Fumigation" means the use within an enclosed space of a fumigant in concentrations which may be hazardous or acutely toxic to man.

"Grease consuming appliances or fume incinerator" means devices intended for placement over restaurant type cooking equipment in the exhaust duct and through which all exhaust vapors or smoke must pass. Grease and other particulate matter from cooking fumes and exhaust are removed by open flames.

"Grease extractor" means a device intended for the removal of smoke and grease-laden particles from exhaust fumes or vapors created by cooking operations. A grease extractor device normally consists of a hood, a grease collecting device, a wash system, means to detect excessive temperature of the exhaust gases which activates a device to prevent flame and excessively hot gases from entering the exhaust duct, and associated electrical controls.

"Halogenated extinguishing agents" means a halogenated compound is one which contains one or more atoms of an element from the halogen chemical series; fluorine, chlorine, bromine and iodine. Halogenated extinguishing compounds shall be restricted to the following:

1. Halon 1211, bromochlorodifluoromethane, $CBrClF_2$; or

2. Halon 1301, bromotrifluoromethane, $CBrF_3$.

"Halogenated extinguished system" means a system of pipes, nozzles and an actuating mechanism and a container of halogenated agent under pressure.

"Handling" means the deliberate transport by any means to a point of storage or use.

"Highly toxic material" means a material so toxic to man as to afford an unusual hazard to life and health during fire fighting operations. Examples are: parathion, TEPP (tetraethyl phosphate), HETP (hexaethyl tetraphosphate), and similar insecticides and pesticides.

"Liquefied petroleum gas (LP-Gas or LPG)" means any material having vapor pressure not exceeding that allowed for commercial propane composed predominantly of the following hydrocarbons, either by themselves or as mixtures: propane, propylene, butane (normal butane or isobutane) and butylenes including isomers.

"Liquefied petroleum gas equipment" means all containers, apparatus, piping (not including utility distribution piping systems) and equipment pertinent to the storage and handling of liquefied petroleum gas. Gas consuming appliances shall not be considered as being liquefied petroleum gas equipment.

"Manual fire alarm system" means an interior alarm system composed of sending stations and signaling devices in a building, operated on an electric circuit, so arranged that the operation of any one station will ring all signals throughout the building and at one or more approved locations.

"Means of egress" means a continuous and unobstructed path of travel from any point in a building or structure to a public way and consists of three separate and distinct parts: the exit access; the exit; and the exit discharge. A means of egress comprises the vertical and horizontal means of travel and shall include intervening room spaces, doors, hallways, corridors, passageways, balconies, ramps, stairs, enclosures, lobbies, escalators, horizontal exits, courts, aisles and yards.

"Noncombustible building material" means one which, in the form and thickness in which it is used, meets any of the following requirements:

1. Materials which are intended to be classified as noncombustible shall be tested in accordance with ASTM E136 listed in Appendix 3–A, incorporated herein by reference. Such materials shall be acceptable as noncombustible materials when at least three of the four specimens tested meet all of the following criteria:

i. The recorded temperature of the surface and interior thermocouples shall not at any time during the test rise more than 54 degrees Fahrenheit above the furnace temperature at the beginning of the test;

ii. There shall be no flaming from the specimen after the first 30 seconds; and

iii. If the weight loss of the specimen during testing exceeds 50 percent, the recorded temperature of the surface and interior thermocouples shall not at any time during the test rise above the furnace air temperature at the beginning of the test, and there shall be no flaming of the specimen.

2. Materials having a structural base of noncombustible materials as defined in paragraph 1 above, with a surfacing not more than ⅛ inch thick which has a flame spread rating not greater than 50 when tested in accordance with ASTM E84 listed in Appendix 3–A, incorporated herein by reference.

The term noncombustible does not apply to the flame spread characteristics of interior finish or trim materials. A material shall not be classed as noncombustible building construction material which is subject to increase in combustible or flame spread rating beyond the limits herein established through the effects of age, moisture or other atmospheric conditions.

"Occupancy" means the purpose for which a building or premises, or part thereof, is used or intended to be used. The term shall also include the building, room or enclosed space that houses a use.

"Occupancy classification" means the various use groups as classified in this Code.

"Occupant load" means the total number of persons that are permitted to occupy a building or portion thereof at any one time.

"Open burning" means the burning of any materials wherein products of combustion are emitted directly into the ambient air without passing through a stack or chimney from an enclosed chamber. For the purposes of this definition, a chamber shall be regarded as enclosed when, during the time combustion takes place, only apertures, ducts, stacks, flues, or chimneys necessary to provide combustion air and to permit the escape of exhaust gas are open.

"Organic coating" means a liquid mixture of binders such as alkyd, nitrocellulose, acrylic, or oil, and flammable and combustible solvents such as hydrocarbon, ester, ketone, or alcohol, which when spread in a thin film convert to a durable protection and decorative finish.

"Overcrowding" means exceeding the total number of persons that may occupy a building or portion thereof at any one time.

"Oxidizing material" means substances such as chlorates, permanganates, peroxides, or nitrates, that yield oxygen readily to stimulate combustion.

"Person" means a corporation, firm, partnership, association, organization and any other group acting as a unit as well as individuals. It shall also include an executor, administrator, trustee, receiver or other representative appointed according to law. Whenever the word "person" is used in any section of this Code prescribing a penalty or fine, as to partnerships or associations, the word shall include the partners or members thereof, and as to corporations, shall include the officer, agents or members thereof who are responsible for any violation of such section.

"Poisonous gas" means any noxious gas of such nature that a small amount of the gas in air is dangerous to life. Examples are: chlorine, cyanogen, fluorine, hydrogen cyanide, nitric oxide, nitrogen tetraoxide and phosgene.

"Portable kerosene-fired heater" means a non-flue-connected, self-contained, self-supporting heater, with integral fuel reservoir, that is designed to be carried from one location to another.

"Radioactive material" means any material or combination of material that spontaneously emits ionizing radiation.

"Residual pressure" means pressure remaining in a fire protection system while water is being discharged from outlets.

"Riser" means a vertical water supply pipe used to carry water for fire protection to elevations above or below grade; such as a standpipe riser, sprinkler riser, etc.

"Rubbish (trash)" means combustible and noncombustible waste materials including the residue from the burning of coal, wood, or coke or other combustible material, paper, rags, cartons, tin cans, metals, mineral matter, glass crockery, dust and discarded refrigerators, heating, cooking or incinerating appliances.

"Safety can" means an approved container, not over five gallons capacity, having a spring closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure. Such containers shall be clearly marked with the product contained therein.

"Self-closing" means, as applied to a fire door or other opening protective, normally closed and equipped with an approved device, which will insure closing after having been opened for use.

"Siamese" means a hose fitting for combining the flow from two or more lines into a single stream.

"Small arms ammunition" means any shotgun, rifle, pistol or revolver cartridge.

"Solid fuel-fired heater" means a flue connected heater, fired with solid fuels, such as a fireplace, fireplace insert or stove, free standing wood stove or similar solid fuel-fire appliance.

"Special industrial explosive device" means any explosive power-pack containing an explosive charge in the form of a cartridge or construction device. The term includes, but is not limited to, explosive rivets, explosive bolts, explosive charges for driving pins or studs, cartridges for explosive-actuated power tools and charges of explosives used in jet tapping of open hearth furnaces and jet perforation of oil well casings.

"Special industrial high explosive materials" means sheets, extrusions, pellets and packages of high explosives containing dynamite, trinitrotoluol, pentaerythritol tetranitrate, cyclotrimethylene trinitramine, or other similar compounds used for high energy rate forming, expanding and shaping in metal fabrication, and for dismemberment and quick reduction of scrap metal.

"Spraying area" see N.J.A.C. 5:70–3.7(c)1.

"Sprinkler alarm system" means an alarm activated by waterflow from a sprinkler system.

"Standpipe" means a wet or dry pipe line, extending from the lowest to the topmost story of a building or structure, equipped with a shutoff valve with hose outlets at every story.

"Storage" means articles that are stored, kept or accumulated for some future use, or for disposal, and are drawn upon as needed.

"Story" means that portion of a building included between the upper surface of a floor and the floor or roof next above.

"Structure" means that which is built or constructed.

"Thermal insecticidal fogging" means the use of insecticidal liquids that are passed through thermal fog-generating units where they are, by means of heat, pressure and turbulence, transformed and discharged in the form of a fog or mist that is blown into an area to be treated.

"Unstable (reactive) chemical" means any substance, other than one classified as an explosive or blasting agent, that will vigorously and energetically react, is potentially explosive, will polymerize, decompose instantaneously, undergo uncontrollable auto-reaction or can be exploded by heat, shock, pressure or combinations thereof. Examples are: organic peroxides, nitromethane, and ammonium nitrate.

"Use group" see N.J.A.C. 5:70–1.5.

"Volatile-flammable" means any liquid, gas substance, mixture or compound that readily emits flammable vapors at a temperature below 73 degrees Fahrenheit when tested in accordance with ASTM D56 listed in Appendix 3–A, incorporated herein by reference.

"Wet system" as applied to water fire suppression systems shall mean a system that is filled with water and connected to a permanent water supply under pressure so that water is discharged immediately from sprinklers opened by a fire or from open hose outlet valves.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added definition of building code in use at time of first occupancy.

Case Notes

Term "individual dwelling unit" in Uniform Fire Code should be construed to have the same meaning as term "dwelling unit" in Uniform Fire Safety Act; term thus applies to both permanent and transient occupancies. Venuti v. Cape May County Const. Bd. of Appeals, 231 N.J.Super. 546, 555 A.2d 1175 (A.D.1989).

Hotel and motel rooms with cooking facilities are "individual dwelling units" and therefore exempt from the requirements imposed by the Uniform Fire Code for fire suppression systems. Venuti v. Cape May County Const. Bd. of Appeals, 231 N.J.Super. 546, 555 A.2d 1175 (A.D.1989).

5:70–3.3 General precautions against fire

(a) The following provisions are general provisions for precautions against fire to be applied to the use of all properties.

1. Any dangerous or hazardous conditions that are outlined in (a)1i through x below shall be removed or remedied in accordance with the provisions of N.J.A.C. 5:70–2.10:

i. Dangerous conditions that are liable to cause or contribute to the spread of fire in or on said premises, building or structure or endanger the occupants thereof;

ii. Conditions that would interfere with the efficiency and use of any fire protection equipment;

iii. Obstruction to or on fire escapes, stairs, passageways, doors or windows, liable to interfere with the egress of occupants or the operation of the fire department in case of fire;

iv. Accumulations of dust or waste material in air conditioning or ventilating systems or grease in kitchen or other exhaust ducts;

v. Accumulations of grease on kitchen cooking equipment, or oil, grease or dirt upon, under or around any mechanical equipment;

vi. Accumulations of rubbish, waste, paper, boxes, shavings or other combustible materials, or excessive storage of any combustible material;

vii. Hazardous conditions arising from defective or improperly used or installed electrical wiring, equipment or appliances;

viii. Hazardous conditions arising from defective or improperly installed equipment for handling or use of combustible, explosive or otherwise hazardous materials;

ix. Dangerous or unlawful amounts of combustible, explosive or otherwise hazardous materials; or

x. All equipment, materials, processes, or operations that are in violation of the provisions and intent of this Code.

(b) The following apply to bonfires and outdoor fires:

1. Burning of rubbish shall be prohibited except in approved incinerators.

2. The burning of herbaceous or infested plant life, the burning of orchard prunings and cuttings, prescribed burnings and the clearing of agricultural land by burning are prohibited by this subchapter, unless in accordance with a permit issued under the provisions of N.J.A.C. 7:27–2, administered by the State Forest Fire Service in New Jersey Department of Environmental Protection (NJDEP).

3. A person shall not kindle or maintain any bonfire or authorize any such fire to be kindled or maintained unless:

i. The location is approved by the fire official and is not less than 50 feet from any structure, and adequate provision is made to prevent fire from spreading to within 50 feet of any structure; or

ii. The fire is contained in an approved burner located safely not less than 15 feet from any structure.

4. Fuel for bonfires shall consist of seasoned dry wood only and shall be ignited with a small quantity of paper only. Bonfires shall not contain rubbish, garbage, trash, any material made of or coated with rubber, plastic, leather or petroleum based materials and shall not contain any flammable or combustible liquids. The allowable quantity of wood to be burned shall be determined by the fire official and shall be based upon the fire safety requirements of the situation and the desirable duration of burn.

5. Bonfires shall be constantly attended by a competent person until such fire is extinguished. This person shall have fire extinguishing equipment readily available for use as deemed necessary by the fire official.

6. The fire official may prohibit any or all bonfires that are or could be offensive or objectionable due to smoke or odor emissions when atmospheric conditions or local circumstances make such fires hazardous. The fire official shall order the extinguishment, by the permit holder or the fire department, of any bonfire that creates or adds to a hazardous or objectionable situation.

7. In districts for which fire wardens have been appointed in accordance with the General Forest Fire Act (N.J.S.A. 13:9–44.1 et seq.), the granting of permits for campfires shall be administered and enforced by the State Forest Fire Service.

8. Open burning shall be allowed without prior notice to the fire official for cooking fires, highway safety flares, smudge pots and similar occupational needs.

(c) A person shall not deposit hot ashes or cinders, or smoldering coals, or greasy or oily substances susceptible to spontaneous ignition into any combustible receptacle, or place the same within 10 feet of any combustible materials, except in metal or other noncombustible covered receptacles. Such receptacles, unless resting on a noncombustible floor or on the ground outside of the building, shall be placed on noncombustible stands and in every case shall be kept at least two feet away from any combustible wall or partition, or exterior window or door opening.

(d) Any person using a torch or other flame-producing device for removing paint, for the sealing of membrane roofs, or for any similar use in or around any building, structure or combustible material is responsible for the prevention of fire and shall do the following:

1. Provide, in a ready state, within 15 feet, (4.6 meters) travel distance of the work being done, either an approved fire extinguisher having a minimum 2A rating or a water hose connected to a reliable water supply. If a water hose is used as the approved extinguisher, it shall be charged and be equipped with a suitable nozzle;

2. Provide shielding, wetting, or other approved means to protect exposed combustible material in close proximity of the flame. Approved stored pressure water fire extinguisher shall not be used to wet combustible material; and

3. Remain in the immediate vicinity for a minimum of one hour or a period of time sufficient to assure that no fire will result from the work that was done or to detect any fire that does occur, which fire shall be reported immediately.

(e) Accumulations of waste paper, wood, hay, straw, weeds, litter or combustible or flammable waste or rubbish of any kind shall not be permitted to remain upon any roof or in any court, yard, vacant lot, alley, parking lot or open space. All weeds, grass, vines or other growth, when same endangers property, or is liable to be fired, shall be cut down and removed by the owner or occupant of the property. All combustible rubbish, oily rags or waste material when kept within a building, shall be stored in approved metal containers. Storage shall not produce conditions that, in the opinion and judgment of the fire official, will tend to create a nuisance or a hazard to the public health, safety or welfare.

(f) The following apply to materials storage:

1. The storage of combustible or flammable material shall be confined to approved storage areas.

2. In sprinklered buildings, storage shall be maintained a minimum of 18 inches below sprinkler head deflectors.

3. Storage in buildings and structures shall be orderly, shall not be within two feet of the ceiling, and located so as not to obstruct egress from the building.

4. The outside storage of combustible or flammable materials shall not be more than 20 feet in height and shall be compact and orderly. Such storage shall be located as not to constitute a hazard and not less than 15 feet from any other building on the site or from a lot line.

5. The clearance between stored materials and unit heaters, radiant space heaters, duct furnaces, and flues shall not be less than three feet in all directions or shall be in accordance with the clearances shown on the approval agency label.

(g) Flammable materials, such as cotton batting, straw, dry vines, leaves, trees, artificial flowers or shrubbery and foam plastic materials, shall not be used for decorative purposes in show windows or other parts of buildings in such a quantity to constitute a fire hazard, unless such material is flameproofed in an approved manner. Electric light bulbs shall not be decorated with paper or other combustible materials unless such materials shall first have been rendered flameproof.

(h) The following apply to open flame or light:

1. A person shall not take or use an open flame or light into any structure, building, barn, vessel, boat or any other place where highly flammable, combustible or explosive material is used or stored. All lighting appliances shall be well secured in a glass globe and wire mesh cage or similar approved device.

2. Heating or lighting apparatus or equipment capable of igniting flammable materials of the types stored or handled shall not be used in the storage area of any warehouse storing rags, excelsior, hair or other highly flammable or combustible material; nor in the work area of any shop or factory used for the manufacture, repair or renovating of mattresses or bedding; nor in the work areas of any establishment used for the upholstering of furniture.

3. Portable LP-gas cooking equipment such as barbecue grills shall not be stored or used:

i. On any porch, balcony or any other portion of a building;

ii. Within any room or space of a building;

iii. Within five feet of any combustible exterior wall;

iv. Within five feet, vertically or horizontally, of an opening in any wall; or

v. Under any building overhang.

(i) The following apply to chimneys and heating appliances:

1. All existing chimneys, smokestacks or similar devices for conveying smoke or hot gases to the outer air and all stoves, ovens, furnaces, incinerators, boilers or any other heat producing devices or appliances shall be constructed in accordance with the building and mechanical codes in effect at the time of first occupancy and maintained in accordance with NFPA 54 and 211 listed in Appendix 3–A, incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations, and in such a manner as not to create a fire hazard.

i. Every chimney, flue, vent and smokestack shall be inspected, cleaned and maintained as often as necessary to ensure adequate draft, structural integrity and freedom from combustible deposits and obstructions.

ii. All fixed heat producing appliances shall be inspected, cleaned and serviced as often as necessary to maintain the appliance in a safe operating condition.

iii. Connector pipes between appliances and chimneys shall be inspected, cleaned or replaced as often as necessary to ensure safe operation of the appliance. All joints shall be gas tight and mechanically fastened with connections made with the pipe installed inside of the following section to ensure conveyance of products of combustion to the exterior.

iv. Appliances which do not vent their flue gases properly to the exterior of the building shall be immediately removed from service in accordance with (i)2 below.

v. Appliances shall only be fired with the fuel for which the appliance is designed and approved.

2. The fire official shall order the sealing (preventing the use) of any existing stove, oven, furnace, incinerator, boiler or any other heat producing device or appliance found to be defective or in violation of Code requirements for existing appliances after giving 10 days notice to this effect to any person, owner, firm, agent or operator in charge of same. However, the fire official may seal any device or appliance without notice when inspection shows the existence of an immediate fire hazard or when imperiling human life. The sealed defective appliance shall remain withdrawn from service until all necessary repairs or alterations have been made.

i. It shall be deemed a violation of this Code for any person or user, firm or agent to continue the use of any device or appliance which has been sealed or ordered sealed under (i)2 above, unless written authority to remove said seal is given by the fire official. Removing or breaking the seal shall be deemed a violation of this Code.

3. All incinerating operations shall be subject to the following restrictions and a sign of permanent design, furnished by the owner, shall be posted in a conspicuous location at or near the incinerator to inform the operators of said restrictions:

i. Fuel-fired incinerators shall be preheated 30 minutes before using;

ii. Only competent operators are allowed to operate the incinerator;

iii. After loading the main combustion chamber, the feed door shall be closed until the combustion cycle is complete;

iv. The waste material ash compartment shall be cleaned regularly; and

v. Waste matter shall not be burned, under permit or otherwise, if such waste matter would, if burned, cause or create a dense smoke or odor.

(j) The following apply to building protection:

1. Fire resistance rated walls, floors and ceilings shall be maintained as originally designed or constructed. Holes in rated walls, floors or ceilings that will allow the movement of fire or smoke shall be repaired to their original rating using approved materials to prevent such movement. All membrane fire protection shall be maintained at all times.

2. All required fire resistance rated doors or smoke barriers, including all hardware necessary for the proper operation thereof, shall be maintained in good working order. The use of door stops, wedges and other unapproved hold-open devices is prohibited. Where it is desired to keep the doors open, the fire official shall require the installation of approved heat rate of rise or smoke actuated self-closing devices.

i. For smoke barrier doors, only smoke actuated devices shall be allowed.

3. All doors to service equipment areas shall be identified, as to the equipment contained within the room, with a permanently affixed sign with letters at least one inch in height.

(k) The following apply to smoking conditions:

1. The smoking or carrying of a lighted pipe, cigar, cigarette or tobacco in any form is prohibited in the areas herein provided.

2. Smoking shall be prohibited where conditions are such as to make smoking a hazard, including areas of piers, wharves, warehouses, stores, industrial plants, institutions, schools, places of assembly and in spaces where combustible materials are stored or handled. The fire official shall designate specific safe locations, if necessary, in any building, structure or place in which smoking may be permitted.

3. The fire official is empowered and authorized to order the owner or occupant to post "No Smoking" signs in each building, structure, room or place in which smoking shall be prohibited. The content, lettering, size, color and location of required "No Smoking" signs shall be subject to the approval of the fire official.

4. It shall be a violation of this Code for any person to obscure, remove, deface, mutilate or destroy a posted "No Smoking" sign.

5. It shall be a violation of this Code for any person to smoke, throw or deposit any lighted or smoldering substance in any place where "No Smoking" signs are posted.

6. Where smoking is permitted, there shall be provided on each table and at other convenient locations suitable noncombustible ash trays or match receivers.

(*l*) The following apply to fire lanes on private property:

1. The fire official, with the approval of the chief executive officer of the fire department and the chief of police of the jurisdiction, may designate fire lanes on private property to which the public is invited or which is devoted to public use, if it is necessary to provide safety for the public or to provide proper access for fire department operations in the event of an emergency.

2. Whenever a determination has been made for the fire lane designation, pursuant to (*l*)1 above, the fire official shall notify the owner of the property in writing by registered or certified mail, or by hand delivering such notice, specifically describing the area designated and the reason for making the designation.

3. The marking of fire lanes shall be the responsibility of, and at the expense of, the property owner and shall be accomplished within 30 days of the receipt of the notification.

4. It shall be a violation of this Code for any person to park a motor vehicle in, or otherwise to obstruct, a fire lane.

(m) The following apply to electrical equipment and hazards:

1. When any electrical hazards arising from defective or improperly used or installed electrical wiring, equipment or appliances are identified, such conditions shall be abated. All identified hazardous electrical conditions in permanent wiring shall be referred to the construction official.

2. Clearance of not less than 30 inches shall be provided between all electrical service equipment and storage.

3. The use of multi-plug adaptors, such as cube adaptors, unfused plug strips, or any other device that is not approved by a nationally recognized testing agency shall be prohibited.

4. Extension cords and flexible cords shall not be used as a substitute for permanent wiring. Extension cords and flexible cords shall not be affixed to structures, extended through walls, ceilings, floors, under doors or floor coverings, nor be subject to environmental damage or physical impact.

5. Open junction boxes and open wiring splices shall be prohibited. Approved covers shall be provided for all switch and electrical outlet boxes.

6. All electrical motors shall be maintained free from accumulations of oil, dirt, waste, and debris.

7. Illumination shall be maintained for all service equipment areas, motor control centers and electrical panelboards.

8. All unused fixtures, circuits, wiring and electrical devices or fixtures shall be removed or properly secured in place.

9. Electrical appliances or fixtures that have not been approved by a nationally recognized testing agency shall not be placed in service.

(n) The following apply to asphalt (tar) kettles:

1. This subsection shall not apply to any use of a tar kettle in conjunction with a valid construction permit.

2. It shall be unlawful to transport or to permit to be transported any asphalt (tar) kettle beneath which is maintained any open fire, heated coals or ashes, over any highway, road or street.

3. Asphalt (tar) kettles shall not be used inside of or on the roof of any building. Fired asphalt (tar) kettles shall not be left unattended.

4. There shall be a minimum of one 20–B:C rated portable fire extinguisher within 30 feet of each asphalt (tar) kettle during the period such kettle is in use, and one additional minimum 20–B:C rated portable fire extinguisher on the roof being covered. Every kettle shall be equipped with a tight fitting cover. A kettle, when in operation, shall be placed a safe distance from any combustible material or buildings.

5. When liquified petroleum gas cylinders or containers are utilized for fueling asphalt (tar) kettles, the LPG cylinder shall be protected against vandalism and tampering.

i. When possible, all LPG cylinders and containers shall be placed in a secured area for protection against tampering.

ii. The storage of LPG cylinders on roof tops shall be prohibited.

(*o*) All high rise structures served by elevators shall be equipped with emergency control devices in accordance with N.J.A.C. 5:70–4.17(e).

(p) The following apply to fire safety and evacuation plans:

1. A fire safety and evacuation plan shall be prepared as set forth in this subsection where required by (p)1i through v below and by N.J.A.C. 5:70–3.15(b)3.

i. Use Group R–1: All Use Group R–1 buildings;

ii. Use Group I: All Use Group I buildings;

iii. High rise buildings: All high rise buildings as defined in this Code;

iv. Casinos: All buildings licensed as hotel-casinos by the New Jersey Casino Control Commission pursuant to N.J.S.A. 5:12–1 et seq. (see also (t) below);

v. Flammable liquid storage terminals: All flammable liquid storage terminals required to install High Level Alarm Systems by N.J.A.C. 5:72 shall submit a fire and emergency plan as required by N.J.A.C. 5:72–3.4(a).

2. The fire safety plan shall be approved by the fire official and shall be distributed by the owner to all tenants and employees. The plan shall contain the location of the nearest exits and fire alarms; the procedures to be followed when a smoke or fire alarm sounds; and the procedures to be followed in the event of fire or smoke.

i. A copy of the fire safety plan shall be readily available at all times within the building. In hotel-casinos the plan shall be located in the Fire Command Center.

3. The evacuation plan shall be conspicuously posted on every floor for the occupants' use.

i. Exception: In R–1 Use Groups the evacuation plan shall be posted on the inside of each guest room door, other than a door opening directly to the outside at grade level.

4. The fire safety and evacuation plan shall be maintained to reflect changes in the use and physical arrangement of the building.

5. All hotel-casino employees who are assigned duties under the plan shall be periodically instructed and kept informed in respect to their respective duties and responsibilities. Such training shall include the proper use of portable fire extinguishers and other manual fire suppression equipment. With respect to new staff members, such training shall be provided within 30 days of entrance to duty. With respect to existing staff, refresher training shall be provided at least annually and whenever a reassignment significantly alters an employee's duties and responsibilities under the plan.

(q) The following apply to portable kerosene fired and solid fuel fired heaters:

1. Portable kerosene fired and solid fuel fire heaters shall be operated and installed with at least the minimum clearance to combustibles for which the appliance has been tested.

i. Exception: Clearances may be reduced in accordance with the mechanical subcode of the Uniform Construction Code.

2. Portable kerosene fired heaters shall be tested in accordance with UL 647 and bear the label of an approved testing agency complying with the criteria for labeling specified in the mechanical subcode of the Uniform Construction Code.

i. The use of portable kerosene fired heaters is prohibited in all Use Groups except R–3.

ii. Portable kerosene fired heaters shall not be offered for sale unless a conspicuous sign is posted at the point of sale and display indicating that the use of portable kerosene fired heaters is prohibited in all buildings except one- and two-family dwellings and is prohibited by ordinance in some municipalities in all dwellings.

iii. Portable containers for kerosene shall be either of a plastic or metal construction with fill and vent openings. The container shall be predominantly medium blue. The word "Kerosene" shall be displayed around the perimeter of the container.

3. Chimneys connected to solid-fuel fired heaters shall be inspected annually and maintained free of significant deposits of creosote and soot.

i. Exceptions to (q)3 above are Use Group R–3 single family dwellings, and chimneys serving fireplaces which are not equipped with fireplace stoves or inserts.

(r) The following apply to vacant and abandoned buildings and structures:

1. All buildings or structures that are, or hereafter become, vacant as a result of damage, fire, or abandonment shall be secured against unauthorized entry as ordered by the fire official. Structures which appear to be in danger of collapse shall be referred to the building official for remedial action in accordance with the Uniform Construction Code.

2. All utilities which represent a potential source of ignition shall be disconnected in a manner approved by the fire official.

3. Fire protection systems shall be maintained as required in N.J.A.C. 5:70–3.4(b)5.

(s) The following apply to fire drills:

1. Fire drills shall be held in buildings and parts thereof, when of Use Group E or Use Group I, in day care centers regardless of use group and in dormitories having an occupancy load of 50 or more.

2. Fire drills shall be held at least once a month in day care centers and buildings of Use Group E, at least twice annually in dormitories, and at least once every three months on each work shift in buildings of Use Group I. During severe weather, fire drills may be postponed.

3. A record of fire drills shall be kept on the premises and shall be made available to the fire official upon request. Such records shall contain the date of drill, weather conditions at the time, number of occupants evacuated, total time for evacuation and any other information relevant to the drill.

4. In day care centers, educational uses and dormitories, fire drills shall include complete evacuation of all persons from the building. In institutional uses, fire drills shall be conducted to familiarize operating personnel with their assigned positions of emergency duty. Complete evacuation of occupants from the building at the time of the fire drill shall be required in institutional uses only where it is practicable and does not involve moving or disturbing persons under medical care or restraint.

(t) The following apply to casino fire safety programs:

1. Every establishment licensed as a hotel-casino by the New Jersey Casino Control Commission shall establish a Fire Safety Unit consisting of trained personnel who shall be under the direct supervision of a supervisor who shall have responsibility for the operation of the Unit and the Fire Command Center and whose sole responsibility during a fire-related emergency incident shall be the direction of the unit and center. The supervisor shall report directly to the Director of the Department under which the Fire Safety Unit is organized.

2. The responsibilities of the Fire Safety Unit shall include the following as listed in (t)2i through ix below. The Fire Safety Unit shall:

i. Ensure continual staffing of the Fire Command Center with trained hotel-casino personnel. There shall be at least one such trained person in the Center at all times who shall, while on duty, be responsible for the direction of the unit and the center during a fire-related emergency;

ii. Develop and implement a comprehensive fire safety and evacuation plan;

iii. Provide specialized training for all employees to assure compliance with the fire safety plan;

iv. Familiarize all employees of the hotel-casino with the fire safety plan and with the built-in fire detection and suppression systems in the casino and hotel;

v. Familiarize management and security employees with local fire department operations and procedures for various emergencies in the hotel-casino;

vi. Provide training for employees on specific support functions to be performed to assist fire department personnel in an emergency;

vii. Provide training for employees in early detection and proper evaluation of a fire emergency and the proper use of first aid, firefighting equipment and techniques;

viii. Provide training annually for all security personnel and Fire Safety Unit staff in cardiopulmonary resuscitation; and

ix. Ensure the maintenance of the building and its fire protection features in compliance with the Uniform Construction Code and the Uniform Fire Code.

3. The Fire Command Center shall maintain a comprehensive log which shall include the information required in (t)3i and ii below.

i. The name and signature of each employee on duty in the Fire Command Center along with the date and time of arrival and departure; and

ii. A description of each incident occurring within the casino or hotel including the date, time, location and action taken. An incident shall include, but not be limited to, fire, alarm activation, trouble signal, fire protection equipment malfunction, and any unrecorded communication pertaining to fire or life safety which are made to or from the Fire Command Center.

(u) The following apply to kitchen exhaust systems:

1. Commercial kitchen exhaust systems shall be cleaned to remove deposits of residue and grease in the system at intervals specified in the cleaning schedule. Thorough cleaning of ducts, hoods and fans shall require scraping, brushing or other positive cleaning methods.

2. When a cleaning schedule is not on file, the fire official shall require an approved cleaning schedule to be submitted indicating the method of cleaning and the time intervals between cleanings.

(v) The following apply to HVAC and mechanical equipment:

1. All heating ventilating and air conditioning (HVAC) and mechanical equipment shall be maintained free of excessive accumulations of oil, grease, dust or waste materials.

2. All emergency controls shall be maintained and tested in accordance with N.J.A.C. 5:70–3.4(c). All fire and smoke dampers shall be free at all times of obstructions that prevent proper operations.

3. All equipment for the handling or use of combustible, explosive or otherwise hazardous materials shall be installed and maintained as required by this Code. Where the provisions of this Code do not specifically cover conditions and operations, the equipment shall be installed and maintained in accordance with nationally recognized good practice so as not to create any hazardous conditions.

(w) The following apply to rooming and boarding houses:

1. Every rooming and boarding house shall have rules prohibiting the activities listed in (w)1i and ii below, which shall be accepted in writing by every resident as a condition of residency.

i. The use of cooking and food warming devices, other than microwave ovens, is prohibited in rooming units.

ii. Smoking is prohibited in rooming units.

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).
Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a), 25 N.J.R. 2519(a).
Added restriction on outside burning at (a); description of required acting at (i); subsection (w) added.
Amended by R.1995 d.59, effective March 6, 1995.
See: 26 N.J.R. 4249(a), 27 N.J.R. 891(a).
Administrative correction.
See: 27 N.J.R. 2886(b).

Case Notes

Storage area constituted a fire hazard. The Yacht Club, 93 N.J.A.R.2d (CAF) 27.

5:70–3.4 Fire protection systems

(a) The general provisions of this section on fire protection systems are as follows:

1. The provisions of this section shall govern the operation, maintenance, and testing of all existing fire protection systems, devices, units and fire safety equipment in all occupancies as herein provided. Such systems shall comply with maintenance provisions of NFPA 13, 13A, 14, 15, 20, 22, 24, 71, 72A, 72B, 72C, 72D, 231, 231C and 231D listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

2. Before any fire alarm, detection or fire suppression system is installed, enlarged or extended, a construction permit shall be secured from the construction official.

3. All required tests shall be conducted by and at the expense and risk of the owner or a representative of the owner. The fire official shall not be held responsible for any damages incurred during any such test. Where the presence of the fire official is required for tests under the provisions of this section, the fire official shall be notified not less than 48 hours before said test is made.

4. All fire department connections and fire pump test connections shall be properly marked with a sign indicating their purpose and shall be maintained in a manner and location satisfactory to the fire official. A metal sign with raised letters at least one inch in size shall be mounted on all fire department connections serving fire sprinklers, standpipes and/or fire pump connections. Such signs shall read Automatic Sprinklers and/or Standpipes and/or Test Connection.

5. All threads provided for fire department connections to sprinkler systems, standpipe systems, yard hydrants or any other fire hose connections shall be uniform to those used by the fire department.

(b) The following apply to protection maintenance:

1. All fire protection systems, devices, units, and service equipment which were installed in compliance with any law, ordinance or order, shall be maintained in an operative condition at all times, and it shall be a violation of this Code for any owner or occupant to reduce the effectiveness of the protection so required; except this shall not prohibit the owner or occupant from temporarily reducing or discontinuing the protection where necessary to make tests, repairs, alterations or additions. The fire official shall be notified before disconnection and interruption of protection, tests, repairs, alterations or additions are started and upon its completion, and shall be advised of the extent of and reason for such work. The restoration of the protection shall be diligently pursued.

2. Anyone disabling, tampering or interfering with the effectiveness of any component of a fire detection or alarm system shall be in violation of this Code.

3. When any required fire alarm, fire communication, fire extinguishing, fire detecting, first-aid fire fighting system, device or unit, or part thereof becomes inoperative and affects the fire safety of a building or structure or the occupants therein, the fire official may order said building or structure or portion thereof vacated until said inoperative system, device or unit is repaired and returned to full service.

4. For buildings under construction, the standpipe system shall be carried up with each floor and shall be installed and ready for use as each floor progresses as required by the Uniform Construction Code. Standpipes shall not be more than one floor below the highest forms or staging.

5. Vacant or unoccupied buildings or portions thereof shall maintain all required sprinkler and standpipe systems and all component parts in a workable condition at all times. Fire alarm systems shall be maintained in operating condition at all times, except in accordance with (b)5i below, and the system shall be tested in the presence of the fire official upon restoration to use.

i. Exception: In vacant or unoccupied buildings, where the fire official determines the type of construction, fire separation and security of the building is such as not to create a fire hazard, the fire official may permit the fire protection and/or detection systems to be taken out of service in such a manner and for such a time as the official specifically prescribes.

6. When a building is being demolished and a standpipe or sprinkler system exists within said building, such standpipe and/or sprinkler system shall be maintained in an operable condition so as to be available for use by the fire department. Such standpipe and/or sprinkler system shall be demolished with the building, but in no case shall the system, or systems, be more than one floor below the floor being demolished.

7. Existing non-required fire protection systems, devices, units and service equipment that do not conform to current Code requirements shall continue in service without alteration provided the fire official determines said system, device, unit or equipment does not constitute a serious protection deficiency. Serious protection deficiencies shall be corrected at the discretion of the fire official.

i. All non-required fire protection equipment shall be arranged and maintained in a manner consistent with the requirements at the time of installation unless discontinuation of the equipment is approved by the fire official. All discontinued equipment and devices (pullstations, nozzles, detectors, heads, sensors, panels, hose connections, etc.) shall be removed so as not to give a false indication that the building, area, or space is protected.

8. In any use of carbon dioxide, dry chemical, or halon total flooding systems where there is a possibility that personnel will be trapped in, or enter into, atmosphere made hazardous by a discharge, warning signs, discharge alarms and breathing apparatus, when provided, shall be maintained to insure prompt evacuation of and to prevent entry into such atmospheres and also to provide means for prompt rescue of any trapped personnel.

(c) The following apply to periodic inspections and tests:

1. Inspections and field tests of fire suppression, alarm, detection and any other fire protection systems, devices and equipment shall be conducted by the owner or an authorized representative as herein required.

2. When testing any suppression system, standpipe or fire alarm system which is connected through a central supervisory station directly to the fire or police department, notification shall be given to the fire official before initiation of the tests.

3. All standpipe fire lines in all buildings and structures shall be tested at least every five years. In high rise structures, tests shall be made at intervals of not more than two years. Wet and dry pipe systems shall meet the flow demands required at the time of installation or as required by (d)2i below, and dry systems shall meet the pressure demands of (d)2 below. At the time of the test, all control valves, including those inside hose cabinets, shall be operated and then reset in their proper position to insure the workability of these valves. Wet and dry systems unable to meet the flow requirements at the time of installation or as required by (d)2i below shall be required to install automatic fire pumps or tanks if deemed necessary by the fire official for the occupancy of the building.

4. The inspector's test connections, main drain valves and all control valves on all sprinkler systems shall be operated at least once a year to determine that there is a free water flow at adequate pressure and that the supervisory service, if any exists, is operating properly. An internal inspection of the piping shall be performed periodically, but at least once every 10 years to check for debris buildup, and the piping is to be flushed if needed. If debris buildup is noted, internal inspections shall be at five year intervals thereafter. Each dry pipe valve shall be cleaned and reset at least once each year. Automatic antifreeze solution systems and limited area systems that are supplied from a domestic water source and which are not required to provide a test line shall be exempt from the requirements of this section.

5. All fire pumps that automatically supply water to suppression systems and standpipes shall be operated periodically until water is discharged freely from the relief valve and at least once every 30 days. A yearly test shall be made in accordance with NFPA 20 listed in Appendix 3–A, incorporated herein by reference, to make sure that neither pump nor suction pipe is obstructed. Where the suction supply is from public mains, the test shall not draw the residual suction pressure at the pump below 20 pounds per square inch (psi).

6. Automatic and manual fire alarm systems and each of their components shall be tested annually in accordance with (c)6i through iii below.

i. An alarm shall be simulated for each zone of the system and shall cause the alarm to be audibly and/or visually received throughout the entire building and at the control panel and at any other location at which the alarm signal is required to be received.

ii. The supervisory circuits of each zone shall be tested in accordance with the manufacturer's instructions and cause a trouble signal to be received both audibly and visually at the control panel.

iii. A failure of the main power supply to the fire alarm system shall be simulated. The emergency power supply shall then be capable of indicating, both audibly and visually, trouble and alarm signals at the control panel.

7. All high level alarm systems installed in accordance with N.J.A.C. 5:72 shall be periodically tested in accordance with (c)4 above.

8. Smoke control systems shall be tested annually in accordance with (c)8i through iv below.

i. Smoke detection systems utilized to activate smoke control systems shall be tested in accordance with (c)6 above.

ii. Smoke control systems shall be placed into operation by manual and automatic means. The proper sequence and operation of system components shall be kept in writing on the premises, shall be available to the fire official and shall be verified when the system is activated.

iii. For pressurization systems, pressure readings shall be taken with all doors closed to verify that the system continues to meet the standards of its approval under the Uniform Construction Code, including maintaining the exhaust capacity.

iv. For smoke removal systems, exhaust discharge readings shall be taken to verify that the system maintains the exhaust capacity required by the Uniform Construction Code.

9. Tests shall be performed on emergency and standby power generation systems annually in accordance with (c)9i and ii below.

i. The main power supply shall be interrupted and cause the generator to start automatically under full load.

ii. Emergency power shall be supplied by the generator in 10 seconds or less under full load. Standby power shall be supplied by the generator in 60 seconds or less under full load.

10. Elevators shall be tested annually in accordance with (c)10i and ii below. The fire official may accept a current Certificate of Compliance issued in accordance with the Uniform Construction Code as evidence of compliance with this section.

i. Upon simulated activation of an elevator lobby detector, the elevator controller shall cause all elevator cars that serve that lobby to return nonstop to the designated lobby, and prevent further operation of the elevators without the use of an emergency service key.

ii. The emergency service keys shall be utilized to place the recalled elevators into emergency operation and to verify proper functioning of the elevator for fire service operation.

11. Foam extinguishing systems shall be periodically tested and maintained in accordance with NFPA 11, 11A and 16 listed in Appendix 3–A, incorporated herein by reference.

12. Carbon dioxide extinguishing systems shall be periodically tested and maintained in accordance with NFPA 12 listed in Appendix 3–A, incorporated herein by reference.

13. Halogenated extinguishing systems shall be periodically tested and maintained in accordance with NFPA 12A and 12B listed in Appendix 3–A, incorporated herein by reference.

14. Dry chemical extinguishing systems shall be periodically tested and maintained in accordance with NFPA 17 listed in Appendix 3–A, incorporated herein by reference.

15. Wet chemical extinguishing systems shall be periodically tested and maintained in accordance with NFPA 17A listed in Appendix 3–A, incorporated herein by reference.

16. Water spray fixed extinguishing systems shall be periodically tested and maintained in accordance with NFPA 15 listed in Appendix 3–A, incorporated herein by reference.

17. A complete written record of all tests and inspections required under this section shall be maintained on the premises by the owner or occupant in charge of said premises, and all such records shall be submitted to the fire official when requested for inspection and evaluation.

(d) The following apply to standpipe systems:

1. All standpipe systems and equipment, including fire pumps, shall be periodically tested in accordance with this Code.

2. All standpipe systems, including dry, wet and dry pipe systems, shall be tested hydrostatically to demonstrate that the system will sustain for two hours a pressure of not less than 200 psi or 50 psi in excess of the maximum static pressure when the maximum static pressure is in excess of 150 psi.

i. Wet and dry pipe systems shall be tested to determine that the source of water supply, held back by air pressure, is adequate to maintain a minimum flow and pressure at the topmost hose outlet as required for the system design by the Uniform Construction Code. A working test of dry pipe valves, quick opening devices and air maintenance devices, if installed, shall be made before acceptance. Dry pipe systems must deliver water at the most remote hose outlet in not more than 60 seconds, starting at the normal operating air pressure.

ii. Standpipe fire lines without permanent or automatic water supply and equipped with a fire department connection shall be capable of delivering 250 gallons per minute (gpm) simultaneously from each of any three outlets under the operation of one fire engine or pumper.

3. All fire hose stations for dry standpipe fire lines shall be marked with a permanently attached noncombustible sign with letters not less than two inches high, in a color which contrasts with the background color, and reading "Dry Hose—Fire Department Use Only" which is mounted or painted on or near said fire hose station.

4. When fire fighting equipment (standpipe, fire hose, fire extinguishers, fire axes, fire department valves, and so forth) is enclosed in cabinets, these cabinets shall not be blocked from use or obscured from view in any manner.

5. When fire fighting equipment is enclosed in cabinets which are equipped with doors, said doors shall conform with the following provisions:

i. Painted over, covered, or solid metal cabinet doors without visual identification glass panels shall not be bolted, locked, or secured in any manner unless said lock is approved by the fire official. Such doors shall be marked by a permanently attached noncombustible sign with letters not less than two inches high, in a color which contrasts with the background color, and shall indicate what equipment is contained therein. The fire official may allow doors to be marked with a permanently attached noncombustible picture of the equipment contained therein provided said doors are not large enough to accommodate a written sign.

ii. Cabinet doors with an approved visual identification clear glass panel need not be marked provided said door is not locked, bolted or secured in any unapproved manner. Cabinet doors with approved visual identification clear glass panels may be locked provided the following conditions are met:

(1) All locking devices shall be approved by the fire official and shall be capable of being opened when a glass panel is broken away;

(2) Unlocking handles shall be painted red and shall indicate the direction in which the handle must be pushed or pulled to unlock said door; and

(3) Visual identification glass panels shall be unobscured or painted panes that can readily be broken so that access can be obtained, and a permanently attached noncombustible sign with letters not less than two inches high, in a color that contrasts with the background color, and reading "Fire Equipment—In Case of Fire Break Glass and Operate Red Handle" shall be mounted or painted on the cabinet doors.

iii. Cabinet doors that have complete glass door panels may be locked provided said glass can readily be broken and access obtained, and a noncombustible sign with letters not less than two inches high in a color that contrasts with the background color and reading "In Case of Fire Break Glass" shall be mounted or painted on the glass panel.

(e) The following apply to fire suppression systems for cooking operations:

1. The provisions of this subsection shall govern the operation and maintenance of fire suppression systems for range hoods and food preparation centers in all buildings and structures.

2. An approved automatic fire suppression system shall be installed in all hoods and connecting hood and duct systems as required by N.J.A.C. 5:70–4.7(g). Such fire suppression systems shall provide surface protection for all cooking appliances and equipment that may be a source of ignition in or under the hood.

i. Automatic safe shut-off valves, remote manual pull stations, surface protection or extended surface protection shall be required by the fire official on any existing automatic or nonautomatic fire suppression system when said system does not conform to the provisions of this section and when additional protection is deemed necessary by the fire official for the safety and protection of the operation, the occupants or the operator.

3. All nozzles, fusible links and cylinders shall be readily accessible for cleaning, replacement, inspection and service. It shall be the responsibility of the person in charge of said cooking operation to see that the extinguishing systems are inspected at least every six months and whenever said system is activated or found inoperative. Inspections shall be made only by properly trained and qualified personnel. Regular service contracts with the manufacturer or an authorized installing or maintenance company are recommended. All actuation components, including remote manual pull stations, mechanical or electrical devices, detectors, actuators, etc., shall be checked for proper operation during inspection. All fusible links and fusible link sprinkler heads shall be replaced annually. Manual stations shall be sealed and safety pinned or latched. An inspection tag shall be located at the manual pull station indicating the date of the last inspection and the signature and name of the person and company who performed the work.

i. A certificate of inspection shall be forwarded to the fire official whenever any system is placed back into service after being discharged or deactivated for repair work, and after each required semi-annual inspection, by the person or company who performed said inspection. Certificates of inspection shall be submitted in such form as the fire official may prescribe.

4. All cooking operations and all food preparation centers within any occupancy, except individual dwelling units, shall provide a sufficient number of portable fire extinguishers to afford adequate fire safety as determined by the fire official but not less than one unit. All extinguishers shall carry a minimum of 20–B:C rating and capacity and be compatible with the fire suppression system extinguishing agent. The extinguisher shall be

located not more than 15 feet and not less than 10 feet from the hazard.

5. When an existing kitchen exhaust suppression system discharges, the protected cooking appliances shall not be operated until the suppression system has been recharged and placed back in service. When the system is recharged, it shall be tested in accordance with (c) above.

(f) The following apply to portable fire extinguishers:

1. All hand operated portable fire extinguishers shall be selected, distributed, inspected, maintained, tested and recharged in accordance with NFPA 10 listed in Appendix 3–A, incorporated herein by reference, and (f)2 below.

2. Portable fire extinguishers shall be provided in all buildings and structures except Use Group R–2 and R–3 as set forth in (f)2i through vi below.

i. Theaters shall be provided with at least two approved fire extinguishers in the stage area behind the proscenium wall where movable scenery is installed; not less than one fire extinguisher on stages or platforms without scenery or stage equipment; one in each tier of dressing rooms; and one immediately outside the entrance to every motion picture booth.

ii. Schools, assembly and lecture halls shall be provided with one fire extinguisher for each 2,500 square feet of floor area or fraction thereof but not less than one fire extinguisher in each laboratory, shop or other vocational room.

iii. In hotels, dormitories and lodging houses, at least one fire extinguisher shall be provided on each floor at the stairway landing and in the corridor at each elevator or bank of elevators.

iv. Hospitals, nursing homes, prisons and group homes shall be provided with one fire extinguisher for each 2,500 square feet of floor area, but not less than one per floor, and one in each kitchen.

v. Portable fire extinguishers shall be provided as required by the fire official in accordance with NFPA 10 listed in Appendix 3–A, incorporated herein by reference.

vi. Where required in other sections of this Code as outlined by Table 3.4(f)2 below:

TABLE 3.4(f)2
PORTABLE FIRE EXTINGUISHERS

Code Section	Description
3.3(d)1	Torches for removing paint
3.3(n)4	Asphalt (tar) kettles
3.4(e)4	Cooking operations
3.6(e)1	Airports
3.6(e)2	Aircraft towing vehicles
3.6(e)3	Welding apparatus
3.6(e)4	Aircraft refueler
3.6(e)5	Aircraft service areas
3.7(c)9	Spray finishing
3.7(d)8	Dip tanks
3.9(b)3	Dry cleaning plants
3.13(b)7	Lumber yards
3.13(c)2	Woodworking machines
3.16(e)6	Service stations
3.17(d)6	Tents, air supported and other temporary structures
3.20(d)4	Welding and cutting operations
3.25(e)2	Cryogenic liquid tank vehicles
3.28(h)1	Flammable and combustible liquid storage
3.28(h)1i	Interior storage rooms
3.28(h)1ii	Inside storage
3.31(d)2	Magnesium processing
3.33(b)3	Organic coatings manufacturing

3. When auxiliary emergency equipment is enclosed in cabinets, said cabinets shall conform to (d)4 through 5 above.

4. In isolated hazardous locations, incidental to the general use of the building, a limited area sprinkler system serviced from the building water supply complying with the Uniform Construction Code may be accepted as a substitute for portable fire extinguishers.

5. Actuated extinguishers shall be immediately moved away from their designated location and shall be temporarily replaced with a standby or spare unit of the same type and capacity as the actuated unit.

6. Soda acid, foam, loaded stream, antifreeze and water portable fire extinguishers of the inverting type shall not be recharged or placed in service for fire protection use. Extinguishers of these types shall not be considered approved devices for fire protection use under the provisions of this code and shall immediately be removed from service.

(g) The following apply to fire alarm systems:

1. Fire alarm systems and all devices attached thereto shall be maintained in proper working order at all times and shall be subjected to periodic tests as required by (c) above.

i. Exception to maintenance and periodic tests: Vacant buildings (see (b)5 above).

2. Battery operated smoke detectors in Use Group R–1 and R–2 buildings and in bed and breakfast homestays shall be maintained, tested and inspected as follows:

i. The owner of the building or his representative shall inspect each detector whenever a change of occupant occurs; and

ii. The owner of the building or his representative shall clean the detector and/or replace the batteries as necessary, but at least once a year, to assure proper operation.

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).
Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added requirements to obtain approval prior to disconnecting alarm in vacant structure; added reference to elevator subcode.
Amended by R.1995 d.59, effective March 6, 1995.
See: 26 N.J.R. 4249(a), 27 N.J.R. 891(a).

Case Notes

Petitioner not required to maintain as operational century old sprinkler system. Wheaton Injection Molding Co. v. Fire Safety Bureau, 94 N.J.A.R.2d (CAF) 92.

5:70–3.5 Means of egress

(a) The provisions of this section shall govern the maintenance and use of means of egress as provided in buildings and structures in accordance with the requirements of the Uniform Construction Code and this code (see N.J.A.C. 5:70–3.15 for additional requirements for places of assembly and education).

(b) The following apply to hazards relating to means of egress:

1. All means of egress elements, such as egress doors and their hardware, corridors, stairways, fire escapes and similar egress components, shall be maintained in a safe and operable condition at all times, and be available for immediate use. The fire official may require a load test on any exterior stairway or fire escape to determine structural stability.

2. A person shall not at any time place any encumbrance within or upon any element of a means of egress which reduces its width to less than that required by the Uniform Construction Code. Draperies or similar decorative hangings shall not obstruct the view of, nor access through, any element of a means of egress. Mirrors shall not be placed in or adjacent to a means of egress in any manner which may confuse the direction of egress. Exit doors shall not be decorated in any way that would obscure or confuse the purpose of the door.

3. Exits shall not be used for any purpose other than a means of egress. Spaces within a stairway enclosure shall not be utilized for storage or location of any materials or items. Exterior spaces below and within 10 feet horizontally of fire escapes and exterior stairs shall not be utilized for the storage of combustible materials or location of refuse containers.

4. Enclosed exit access corridors shall be maintained free of accumulations of flammable or combustible materials at all times except for the conditions listed in (b)4i and ii below:

i. Decorative items affixed directly to walls or ceilings; or

ii. Furniture located within seating or waiting areas which is fixed in place which does not reduce the required width of the corridor.

(c) The following apply to egress doors:

1. All interior exit stairway doors shall be openable from either side; and all egress doors shall be openable from the side from which egress is to be made without the use of a key or special knowledge or effort at all times the building or area served is occupied except as provided in (c)2 below.

i. All keys necessary for unlocking doors installed in means of egress shall be individually identifiable by both touch and sight.

2. Exceptions: Locks or fasteners may be installed on egress doors under the following conditions only:

i. In mental, penal or other institutions where the security of inmates is necessary, in which case properly trained supervisory personnel shall be continuously on duty and approved provisions are made to safely remove occupants in case of fire or other emergency;

ii. In problem security areas, special purpose door alarms or locking devices shall be approved by the fire official prior to installation. Manually operated edge or surface molded flush bolts are prohibited; and

iii. In high rise buildings with stairway doors arranged in accordance with the Uniform Construction Code.

(d) The following apply to emergency escape windows:

1. Emergency escape windows and doors shall be maintained operational and available to occupants of sleeping rooms in residential uses.

2. Existing bars, grills, grates or similar devices may be permitted in required emergency escape windows provided such devices are approved by the fire official, in accordance with N.J.A.C. 5:71–2.1 and 3.3, and are equipped with approved release mechanisms which are openable from the inside without the use of a key or special knowledge or excessive force. Installation of new devices shall be in accordance with the New Jersey Uniform Construction Code.

(e) The following apply to signs and lighting:

1. All exit signs shall be maintained in a clean and legible condition and shall be clearly illuminated at all times that the building is occupied. Supplemental internally illuminated directional signs, when necessary, shall be installed indicating the direction and way of egress.

i. A sign shall be provided at each landing in all interior stairways more than three stories in height designating the floor level above the exit discharge.

2. Any door, passage or stairway which is neither a means of egress nor access to a means of egress and which is so located or arranged as may be mistaken for a means of egress shall be properly identified as to its use.

3. Decorations, furnishings or equipment which impair the visibility of egress signs shall not be permitted nor shall there be any brightly illuminated sign (for other than egress purposes), display or object in or near the line of vision to the required egress sign of such a character as to so detract attention from the egress sign that it may not be noticed.

4. Stairways, hallways and other means of egress, including exterior open spaces to or through which an exit leads, shall be kept adequately lighted at all times that the building served thereby is occupied.

5. All elevator lobby call stations on all floor levels in buildings more than six stories or 75 feet in height shall be marked with approved signs reading as follows: "Use Stairways in Case of Fire—Do Not Use Elevators." The requirements of this paragraph shall apply to existing as well as new buildings.

6. Emergency lighting units shall be maintained, operable and ready for use at all times and shall activate upon primary power failure. Nothing shall be placed so as to block or obstruct these devices.

i. Emergency lighting units shall be tested on at least an annual basis.

ii. The owner of the building or his representative shall maintain a written record of all maintenance and tests on the premises.

(f) The following apply to fire and exit doors:

1. All self-closing and automatic doors serving as a means of egress or providing a fire or smoke barrier as required by the building code in effect at the time of first occupancy shall be maintained in operable condition at all times in accordance with NFPA 80 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

i. It shall be unlawful to block open any interior egress door or any fire door which is required to be self-closing.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added clarification of approval responsibilities at (d).
Amended by R.1995 d.59, effective March 6, 1995.
See: 26 N.J.R. 4249(a), 27 N.J.R. 891(a).

5:70–3.6 Airports, heliports and helistops

(a) The following are general provisions applicable to this section:

1. The provisions of this section shall apply to all airports, heliports, helistops and aircraft hangars.

2. All applicable facilities shall be operated and maintained in accordance with the provisions of this code.

(b) The following apply to service areas:

1. A person shall not install, operate, or maintain an aircraft service except in accordance with the provisions of N.J.A.C. 5:70–3.16 and 3.28. All transferring apparatus, pumps, hoses, electrical equipment, fueler units and accessory equipment shall be approved and shall comply with NFPA 407 listed in Appendix 3–A, incorporated herein by reference.

2. The dispensing, transfer or storage of flammable or combustible liquid shall not be permitted inside of or upon any building or structure. Flammable or combustible liquid shall not be dispensed into or removed from a container, tank, vehicle or aircraft except in a location approved by the fire official.

3. All repairing of aircraft requiring the use of open flames, spark-producing devices or the heating of parts above 500 degrees Fahrenheit shall be done in the open or in an area conforming to the provisions of the Uniform Construction Code.

4. A person shall not smoke or produce any open flame within 50 feet of any point where fuel is being transferred, nor shall any electrical or motor driven device be connected to or disconnected from any aircraft at any time fueling operations are in progress on such aircraft.

(c) Safety requirements are as follows:

1. Application of flammable finishes shall be conducted in areas approved by the fire official.

2. A person shall not clean any aircraft, engine or parts of an aircraft or engine with any Class I flammable liquid.

3. Every aircraft hangar shall be provided and maintained with metal drip pans under the engines of all aircraft, except turbine-powered aircraft, stored or parked therein.

4. An open flame, flame-producing device or other source of ignition shall not be permitted in any hangar, except in approved locations.

5. Smoking shall be prohibited on loading and servicing ramps or within 50 feet of any parked aircraft. Smoking in hangars shall be allowed only in areas designated by the fire official. "No Smoking" signs shall be provided in accordance with (k) below.

6. The engines of any aircraft shall not be run in an aircraft hangar except in approved engine test areas.

7. Combustible materials or other hazardous materials shall not be stored in an aircraft hangar except in locations and containers approved by the fire official.

8. The touchdown area for helicopters shall be surrounded on all sides by a clear area having a minimum average width at roof level of 15 feet with no width less than five feet and shall be so maintained.

9. Landing areas on structures shall be so maintained as to confine any flammable liquid spillage to the landing area itself and provision shall be made to drain such spillage away from any exit servicing the landing area or from a structure housing such exit.

(d) The following apply to passenger facilities:

1. Passenger traffic may be permitted during the time fuel transfer operations are in progress, provided the following provisions are strictly enforced by the owner of the aircraft or an authorized employee.

i. A person shall not smoke or produce any open flame in the cabin of the aircraft or on the outside thereof within 50 feet. A qualified employee of the aircraft owner shall be responsible for seeing that passengers are not allowed to smoke when remaining aboard the aircraft, nor while crossing the ramp from the gate to the aircraft or vice versa.

ii. Passengers shall not be permitted to linger about the aircraft but shall proceed directly between the loading gate and the aircraft.

iii. Passenger loading stands shall be left in loading position until all fuel transfer operations are completed.

iv. Fuel transfer operations shall not be performed on the main exit side of any aircraft containing passengers except when the owner of the aircraft or a capable and qualified employee of the owner shall remain inside to direct and assist the escape of such passengers through regular and emergency exits in the event of fire. A passenger shall not board or exit the aircraft on the same side as the refueling operation.

2. Exits from applicable facilities shall be maintained in compliance with N.J.A.C. 5:70–3.5 except that all landing areas located on buildings shall have at least two independent exits.

(e) The following apply to portable fire extinguishers:

1. Portable fire extinguishers suitable for flammable liquid and electrical type fires shall be provided as specified by the fire official.

2. Every vehicle for towing aircraft shall be equipped with at least one fire extinguisher having a minimum 20–B:C rating.

3. Every welding apparatus shall be equipped with at least one fire extinguisher having a minimum rating of 2–A:10–B:C.

4. Every aircraft refueler shall be equipped with a minimum of two extinguishers having a 20–B:C rating. A fire extinguisher shall be readily accessible from either side of the vehicle.

5. Every aircraft service area shall be provided with at least two fire extinguishers as specified in NFPA 407 listed in Appendix 3–A, incorporated herein by reference.

6. The use of any fire extinguishing equipment under any circumstances shall be reported to the airport manager and the fire official immediately after use.

5:70–3.7 Application of flammable finishes

(a) The following are general provisions applicable to this section:

1. The locations or areas where the following activities are intended to be conducted or are done shall comply with the provisions of this section.

i. The application of flammable or combustible paint, varnish, lacquer, stain or other flammable or combustible liquid applied as a spray by whatever means, in continuous or intermittent process; and

ii. Dip tank operations in which articles or materials are passed through contents of tanks, vats or containers of flammable or combustible liquids, including coating, finishing, treating and similar processes.

2. This section does not cover the outdoor spray application of buildings, tanks or other similar structures, nor does it cover small portable spraying apparatus not used repeatedly in the same location; provided, however, that the herein described fundamental safeguards pertaining to cleanliness, care of flammable liquids, dangerous vapor-air mixtures and sources of ignition shall be applicable.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which spraying or dipping operations are done shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by N.J.A.C. 5:70–4 and that code. Buildings and structures and their service equipment shall be maintained in proper operating condition as required by this code and NFPA 33 and 34 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

2. Smoking and open flames shall be prohibited in any spray finishing area and in the vicinity of dip tanks. Signs with lettering of approved size shall be conspicuously posted in such areas and shall read "No Smoking By Order of the Fire Official."

3. Electrical wiring and equipment shall conform to the provisions of N.J.A.C. 5:70–3.3(m) and shall be installed as specified in NFPA 70 listed in Appendix 3–A, incorporated herein by reference.

(c) The following apply to spray finishing:

1. Any area in which quantities of flammable vapors or combustible residues, dusts or deposits are present due to the operation of spraying processes shall be considered a

spraying area. The fire official may define the limits of the spraying area in any specific case. A spraying area shall include:

i. The interior of spray booths;

ii. The interior of ducts exhausting from spraying processes; and

iii. Any area in the direct path of spray or any area containing dangerous quantities of air-suspended combustible residue, dust, deposits, spray or vapor as a result of spraying operations.

2. Spray-finishing operations shall not be conducted in buildings used for assembly, educational, institutional or residential occupancies, except in a room designed for that purpose, protected with an approved fire suppression system and separated vertically and horizontally from other areas as required by the Uniform Construction Code or N.J.A.C. 5:70–4.

3. Spray booths shall be maintained according to (c)3i through vii below.

i. The interior surfaces of spray booths shall be smooth and continuous without edges and otherwise maintained to prevent pocketing of residues and facilitate cleaning and washing without injury.

ii. The floor construction of spray areas, if combustible, shall be covered by approved noncombustible material. All spraying areas shall be kept free from the accumulation of deposits of combustible residues. Combustible coverings (thin paper, plastic, and so forth) and strippable coatings may be used to facilitate cleaning operations in spraying areas. If residue accumulates to excess in booths, ducts or duct discharge points or other spraying areas, then all spraying operations shall be discontinued until conditions are corrected.

iii. If installed, baffle plates shall be of noncombustible material, readily removable or accessible on both sides for cleaning and designed to promote an even flow of air through the booth and to prevent the deposit of overspray before it enters the exhaust duct. Such baffle plates shall not be located in exhaust ducts.

iv. Each spray booth having a frontal area larger than nine square feet shall have a metal deflector or curtain not less than 4½ inches deep installed at the upper outer edge of the booth, over the opening.

v. Each spray booth shall be separated from other operations by at least three feet or by such partition or wall as the fire official may require to reduce the hazard from adjoining operations.

vi. Spray booths shall be so installed that all portions are readily accessible for cleaning. A clear space of not less than three feet on all sides shall be kept free from storage or combustible construction. This does not preclude the installation of a spray booth against a partition or wall having a one hour fire resistance rating providing the booth can be maintained and cleaned.

vii. When spraying areas are illuminated through glass panels or other transparent materials, only fixed lighting units shall be used as a source of illumination. Panels shall effectively isolate the spraying area from the area in which the lighting unit is located and shall be of noncombustible material of such a nature or so protected that breakage will be unlikely. Panels shall be so arranged that normal accumulations of residue on the exposed surface of the panel will not be raised to a dangerous temperature by radiation or conduction from the source of illumination.

4. Overspray dry filters or filter rolls, if installed in conventional dry-type spray booths, shall conform to the provisions of (c)4i through v below.

i. All discarded filter pads and filter rolls shall be immediately removed to a safe, well-detached location or placed in a water filled metal container and disposed of at the close of the day's operation unless maintained completely immersed in water.

ii. The location of filters in a spray booth shall be so as to not reduce the effective booth enclosure of the objects being sprayed.

iii. Clean filters or filter rolls shall be noncombustible or of an approved type.

iv. Filters or filter rolls shall not be used when applying a spray material known to be highly susceptible to spontaneous heating and ignition.

v. Filters and filter rolls shall not alternately be used for different types of coating materials where the combination of materials may be conducive to spontaneous ignition.

5. There shall be no open flame, spark-producing equipment or exposed surfaces exceeding the ignition temperature of the material being sprayed in the areas specified in (c)5i and ii below, except as specifically permitted in (c)11 and (e) below. Further, there shall be no equipment or processes that may produce sparks or particles of hot metal located above or adjacent to the areas in (c)5i and ii below, unless means are provided to prevent the sparks or particles of hot metal from entering these areas.

i. A spraying area as defined in (c)1 above; and

ii. An area adjacent to a spraying area which would require electrical equipment conforming to the provisions of NFPA 70 listed in Appendix 3–A for Division 2 locations, incorporated here by reference, unless separated therefrom by a partition extending at least to the boundary of the Division 2 location.

6. Room heating appliances, steam pipes or hot surfaces shall not be located in a spraying area where deposits of combustible residues may readily accumulate.

7. A ventilation system shall be operated and maintained for all spray booths and spray areas in accordance with the BOCA Mechanical Code listed in Appendix 3–A, incorporated herein by reference.

8. The storage and handling of flammable liquids shall be in accordance with N.J.A.C. 5:70–3.28 and shall also conform to the provisions of this paragraph.

i. Where the quantity of liquid in five gallon and smaller containers, other than original sealed containers, exceeds a total of 10 gallons, it shall be stored in a storage cabinet or an interior storage room conforming to N.J.A.C. 5:70–3.28.

ii. Original closed containers, approved portable tanks, approved safety cans or a properly arranged system of piping shall be used for bringing flammable liquids into spray finishing areas. Open or glass containers shall not be used.

iii. Containers supplying spray nozzles shall be of a closed type or provided with metal covers kept closed. Containers not resting on floors shall be on noncombustible supports or suspended by wire cables. Containers supplying spray nozzles by gravity flow shall not exceed 10 gallons capacity.

iv. All containers or piping to which is attached a hose or flexible connection shall be provided with a shutoff valve at the connection. Such valves shall be kept shut when spraying operations are not being conducted, except when a circulating system is used and it is provided with an automatically operated anti-runaway control.

v. Heaters shall not be located in spray booths or other locations subject to the accumulation of deposits of combustible residue.

vi. If flammable or combustible liquids are supplied to spray nozzles by positive displacement pumps, means shall be provided to prevent the discharge pressure from exceeding the operating pressure of the system. Any discharge shall be to a safe location.

vii. Whenever flammable liquids are transferred from one container to another, both containers shall be bonded or effectively grounded. Piping systems for flammable liquid shall be permanently grounded.

9. All spraying areas shall be provided with portable fire extinguishers suitable for flammable liquid fires as specified for extra hazardous occupancies in NFPA 10 listed in Appendix 3–A and incorporated herein by reference.

10. All spraying areas shall be kept free from the accumulation of deposits of combustible residues. Combustible coverings (thin paper, plastic, and so forth) and strippable coatings may be used to facilitate cleaning operations in spraying areas. If residue accumulates to excess in booths, duct or duct discharge points or other spraying areas, then all spraying operations shall be discontinued until conditions are corrected.

i. Scrapers, spuds or other such tools used for cleaning purposes shall be of nonsparking material.

ii. Residue scraping and debris contaminated with residue shall be immediately removed from the premises and properly disposed of.

iii. Solvents for cleaning operations shall have flash points above 100 degrees Fahrenheit except that for cleaning spray nozzles and auxiliary equipment, solvents having flash points not less than those normally used in spray operations may be used. Cleaning operations using flammable or combustible solvents shall be conducted inside spray booths with ventilating equipment operating during the cleaning procedure.

iv. Spray booths shall not be alternately used for different types of coating materials, where the combination of the materials may be conducive to spontaneous ignition, unless all deposits of the first used material are removed from the booth and exhaust ducts prior to spraying with the second.

v. Approved metal waste cans equipped with self-closing lids shall be provided wherever rags or waste are impregnated with finishing material and all such rags or waste shall be deposited therein immediately after use. The contents of waste cans shall be properly disposed of at least once daily and at the end of each shift.

11. In addition to conforming to the requirements of this section, drying apparatus shall comply with the applicable provisions of N.J.A.C. 5:70–3.14.

i. Spray booths, rooms or other enclosures used for spraying operations shall not alternately be used for the purpose of drying by any arrangement which will cause a material increase in the surface temperature of the spray booth, room or enclosure.

ii. Except as specifically provided in (c)11iii below, drying or baking units utilizing a heating system having open flames or which may produce sparks shall not be installed in a spraying area as defined in (c)1 above, but may be installed adjacent thereto when equipped with an interlocked ventilating system arranged to:

(1) Thoroughly ventilate the drying space before heating system can be started;

(2) Maintain a safe atmosphere at any source of ignition; and

(3) Automatically shut down the heating system in the event of failure of the ventilating system.

iii. Automobile refinishing booths or enclosures, installed and maintained in conformity with this section, may alternately be used for drying with portable infrared drying apparatus when conforming to all of the following requirements:

(1) The procedure shall be restricted to low-volume, occasional spray application;

(2) The interior of spray enclosures shall be kept free of over-spray deposits; and

(3) During spray operations, the drying apparatus and electrical connections and wiring thereto shall not be located within spray enclosure nor in any other location where spray residue may be deposited thereon.

(4) Spraying apparatus, drying apparatus, and ventilating system of spray enclosure shall be equipped with suitable interlocks so arranged that:

(A) Spraying apparatus cannot be operated while drying apparatus is inside spray enclosure;

(B) Spray enclosure will be purged of spray vapors for a period of not less than three minutes before drying apparatus can be energized; and

(C) Ventilating system will maintain a safe atmosphere within the enclosure during the drying process and drying apparatus will automatically shut off in the event of failure of the ventilating system.

(5) All electrical wiring and equipment of drying apparatus shall conform to the provisions of N.J.A.C. 5:70–3.3(m). Only equipment of a type approved for Class I, Division 2, hazardous locations shall be located within 18 inches of floor level. All metallic parts of drying apparatus shall be properly electrically bonded and grounded.

(d) The following apply to dip tanks:

1. The provisions of this subsection shall apply to any tank, vat or container of flammable or combustible liquid in which articles or materials are immersed for the purpose of coating, finishing, treating or similar processes, which are known as dip tanks, and to any area containing dangerous quantities of flammable vapors in the vicinity of dip tanks, their drain boards or associated drying, conveying or other equipment, during operation or shutdown periods, which shall be known as vapor areas. The fire official may determine the extent of the vapor area, taking into consideration the characteristics of the liquid, the degree of sustained ventilation and the nature of the operations.

2. Dip tank operations shall not be conducted in buildings used for assembly, educational, institutional or residential occupancies, except in a room designed for the purpose, protected with an approved automatic fire suppression system and separated vertically and horizontally from other areas as required by the Uniform Construction Code.

3. A ventilation system shall be operated and maintained in all areas in accordance with this code and the BOCA mechanical code listed in Appendix 3–A.

4. Dip tanks, including drain boards if provided, shall be constructed of substantial noncombustible material and their supports shall be of heavy metal, reinforced concrete or masonry and shall comply with the following provisions of (d)4i through iii below.

i. Dip tanks of over 150 gallons in capacity or 10 square feet in liquid surface area shall be equipped with a properly trapped overflow pipe leading to a safe location outside the building. The bottom of the overflow connection shall not be less than six inches below the top of the tank.

ii. Dip tanks over 500 gallons in liquid capacity shall be equipped with bottom drains automatically and manually arranged to quickly drain tank in event of fire unless the viscosity of the liquid at normal atmospheric temperature makes this impractical. Manual operation shall be from a safely accessible location. Where gravity flow is not practicable, automatic pumps shall be provided.

iii. All bottom drains shall be trapped and shall discharge to a closed properly vented salvage tank or to a safe outside location.

5. Dip tanks utilizing a conveyor system shall be so arranged that, in the event of fire, the conveyor system shall automatically cease motion and required bottom drains shall open.

6. There shall be no open flames, spark producing devices or heated surfaces having a temperature sufficient to ignite vapors in any vapor area.

i. Electrical wiring and equipment in any vapor area shall be explosion-proof type approved for use in such hazardous locations. Such area shall be considered as Class I, Division 1, hazardous locations as specified in NFPA 70 listed in Appendix 3–A.

ii. Unless specifically approved for locations containing both deposits of readily ignitable residues and explosive vapors, there shall not be electrical equipment in the vicinity of dip tanks or associated drain boards or drying operations which are subject to splashing or dripping of dip tank liquids, except wiring in rigid conduit or in threaded boxes or fittings not containing taps, splices or terminal connections, and except as specifically permitted in (e) below relating to electrostatic apparatus.

iii. In any floor space outside a vapor area, but within 20 feet therefrom, and not separated by tight partitions, open flames or spark producing devices shall be prohibited, except drying and baking apparatus may be installed adjacent to vapor areas when conforming to (c)1ii above. Such area shall be considered a Class I, Division 2, hazardous location as specified in NFPA 70 listed in Appendix 3–A.

7. Areas in the vicinity of dip tanks shall be maintained as clear combustible stock as practical and shall be kept entirely free of combustible debris.

i. When waste or rags are used in connection with dipping operations, approved metal waste cans equipped with self-closing lids shall be provided and all impregnated rags or waste deposited therein immediately after use. The contents of waste cans shall be disposed of at least once daily and at the end of each shift.

8. Areas in the vicinity of dip tanks shall be provided with portable fire extinguishers suitable for flammable liquid fires as specified for extra hazardous occupancies in NFPA 10 listed in Appendix 3–A, incorporated herein by reference.

9. Covers arranged to close automatically in the event of fire shall be actuated by approved automatic devices and shall also be arranged for manual actuation and operation.

i. Covers shall be of substantial noncombustible material or of tin-clad type with enclosing metal applied with locked joints.

ii. Chains or wire rope shall be used for cover support or operating mechanism where the burning of a cord would interfere with the action of a device.

iii. Covers shall be kept closed when tanks are not in use.

10. Hardening and tempering tanks shall conform to (d)4 and 7 above, as well as (d)10i through iv below.

i. Tanks shall be located as far as practicable from furnaces and shall not be located on or near combustible construction.

ii. Tanks shall be provided with a noncombustible hood and vent or other equally effective means, terminating outside of the building to serve as a vent in case of fire. All such vent ducts shall be treated as flues and proper clearances shall be maintained from combustible materials.

iii. Tanks shall be equipped with a high temperature limit switch arranged to sound an alarm when the temperature of the quenching medium reaches 50 degrees Fahrenheit below the flash point.

iv. Air under pressure shall not be used to fill or to agitate oil in tanks.

11. Flow coat operations shall conform to the requirements for dip tanks, considering the area of the sump and any areas on which paint flows as the area of a dip tank.

i. Paint shall be supplied by direct low pressure pumping arranged to automatically shut down by means of approved heat actuated devices in case of fire, or by a gravity tank not exceeding 10 gallons in capacity.

12. The processes of roll coating, spreading and impregnating, in which fabrics, paper or other materials are passed directly through a tank or trough containing flammable liquids, or over the surface of a roller that revolves partially submerged in a flammable liquid, shall conform to the requirements of this subsection and to the applicable provisions of this section.

i. Adequate arrangements shall be made to prevent sparks from static electricity by electrically bonding and grounding all metallic rotating and other parts of machinery and equipment and by the installation of static collectors or maintaining a conductive atmosphere such as a high-relative humidity.

(e) The following apply to electrostatic apparatus:

1. Approved electrostatic equipment shall be used in connection with paint spraying operations.

2. Transformers, power packs, control apparatus and all other electrical portions of the equipment, with the exception of high voltage grids and electrostatic atomizing heads and their connections, shall be located outside of the spraying or vapor areas as defined in (c) and (d) above or shall conform to the requirements of (c)5 and (d)6 above.

3. A space of at least twice the sparking distance shall be maintained between goods painted and fixed electrodes, electrostatic atomizing heads or conductors. A suitable sign stating the sparking distance shall be conspicuously posted near the assembly.

4. Electrostatic apparatus shall be equipped with automatic controls which will operate without time delay to disconnect the power supply to the high voltage transformer and to signal the operator under any of the following conditions:

i. Stoppage of ventilating fans or failure of ventilating equipment from any cause;

ii. Stoppage of the conveyor carrying goods past the high voltage grid;

iii. Occurrence of a ground or of an imminent ground at any point of the high voltage system; or

iv. Reduction of clearance below that specified in (e)3 above.

(A) Hand electrostatic equipment shall be interlocked with the ventilation system for the spraying

area so that the equipment cannot be operated unless the ventilating system is in operation.

5. Adequate booths, fencing, railings or guards shall be so placed about the equipment that it is either by their location or character or both that a safe isolation of the process is maintained from plant storage or personnel. Such railings, fencing and guards shall be of conducting material, adequately grounded, and shall be at least five feet from processing equipment.

6. Signs shall be posted designating the process zone as dangerous with respect to fire and accident.

7. All insulators shall be kept clean and dry. Drip plates and screens subject to paint deposits shall be removable and shall be taken to a safe place for cleaning.

8. The spraying area shall be adequately ventilated so as to insure a safe condition from a fire and health standpoint.

(f) The following apply to automobile undercoating:

1. Automobile undercoating spray operations, conducted in areas having adequate natural or mechanical ventilation, may be exempt from the provisions of (c) above as approved by the fire official when using undercoating materials that are not more hazardous than fuel oil or undercoating materials using only solvents having a flash point in excess of 100 degrees Fahrenheit.

2. Undercoating spray operations not conforming to (f)1 above shall be subject to all applicable provisions of this section.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added (a)2; deleted (c)9 and added new text.
Administrative correction.
See: 27 N.J.R. 2886(b).

Cross References

Applicability of life hazard use provisions, see N.J.A.C. 5:70–2.4A.

5:70–3.8 Bowling establishments

(a) The equipment, processes and operation of bowling alleys and establishments shall comply with the applicable requirements of this Code and the provisions of this section.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used for bowling alleys or establishments shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishment equipment as required by that code. Buildings and structures and their service equipment shall be maintained in proper operating condition as required by this Code.

2. A metal waste can with self-closing cover shall be provided for all waste materials and rags, and the contents shall be disposed of daily.

(c) In the operation and maintenance of bowling establishments, the following conditions shall be observed.

1. Resurfacing operations shall not be carried on while the establishment is open for business. The fire official shall be notified when the bowling lanes are to be resurfaced. Mechanical ventilation shall be provided to adequately remove flammable vapors. Heating, ventilating or cooling systems employing recirculation of air shall not be operated during resurfacing operations or within one hour following the application of flammable finishes. All electric motors or other equipment in the area which might be a source of ignition shall be shut down, and all smoking and use of open flame shall be prohibited during the application of flammable finishes and for one hour thereafter.

2. Pin refinishing involving the application of flammable finishes shall be done only in a special room meeting the requirements of the building code in effect at the time of first occupancy or N.J.A.C. 5:70–4. Smoking shall be prohibited at all times in refinishing rooms.

3. All power tools in the room shall be effectively grounded. A substantial metal box or other receptacle approved by the fire official shall be provided for catching dust of lathes and sanding or buffing machines thrown off during operation. The contents shall be removed daily and disposed of safely.

4. Storage of flammable or combustible liquids in such rooms shall not exceed a combined aggregate of 60 gallons in original metal containers, or five gallons individual capacity in approved safety containers in accordance with N.J.A.C. 5:70–3.28, where provisions of this section do not specifically cover conditions and operations.

5:70–3.9 Dry cleaning plants

(a) The following general provisions apply to dry cleaning plants:

1. The equipment, processes and operation of dry cleaning plants shall comply with the construction requirements of the building code in effect at the time of first occupancy and the maintenance provisions of NFPA 32 listed in Appendix 3–A, incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations.

2. Dry cleaning systems shall be classified as follows:

i. High hazard: All such establishments shall be classified as high hazard which employ gasoline or other solvents having a flash point below 100 degrees Fahrenheit per ASTM D56 listed in Appendix 3–A, incorporated herein by reference, in quantities of more than three gallons, or more than 60 gallons of combustible solvents with a flash point between 100 and 140 degrees Fahrenheit.

ii. Moderate hazard: All such establishments employing less than three gallons of volatile flammables with a flash point of less than 100 degrees Fahrenheit or less than 60 gallons of solvent with a flash point between 100 and 140 degrees Fahrenheit shall be classified as moderate hazard.

iii. Low hazard: All such establishments using solvents of other than flammable liquids or solvents with a flash point more than 140 degrees Fahrenheit in cleaning and dyeing operations shall be classified as low hazard.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used for drycleaning operations shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code or by N.J.A.C. 5:70–4. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. Every dry cleaning room, and dry dyeing room employing high and moderate hazard solvents, shall be protected with an approved automatic fire suppression system in accordance with this Code and the Uniform Construction Code.

3. Adequate portable fire extinguishing appliances of a type suitable for fighting fires involving flammable liquids shall be provided in all dry cleaning plants; at least one extinguisher shall be provided at each entrance to every room or area where flammable liquids are stored or used.

4. Smoking in all plants shall be strictly prohibited, except in smoking rooms so designated by the fire official, and "No Smoking" signs shall be posted.

(c) Storage and handling of cleaning solvents shall be as follows:

1. All solvent containers and storage tanks shall be stored and maintained in accordance with N.J.A.C. 5:70–3.28.

2. The handling of solvents from storage tanks or containers through the various machines and equipment and back to the settling and clear solvent tanks shall be through closed circuits of piping. Pipe systems shall contain a sufficient number of valves to operate the system properly and to protect the plant.

i. All piping shall be tested to a pressure of at least 50 percent in excess of normal operating pressure and proven tight and protected against physical damage.

ii. Piping, valves, fittings and ground joint unions for solvents shall be designed for the working pressures and structural stresses to which they may be subjected. They shall be of steel or other material suitable for use with the solvent. Pipe systems shall be substantially supported and protected against physical damage and excessive stresses arising from settlement, vibration, expansion or contraction. Cast iron fittings for pressure piping shall be prohibited.

3. Pumps of positive displacement-type shall have a bypass and relief valve.

4. Sight glasses, the breakage of which would permit the escape of liquids, shall be of a type not readily damaged by heat and shall be protected against physical damage.

i. Liquid level gauge glasses in moderate hazard systems shall be equipped with an automatic device which will immediately shut off the flow of solvent if the glass is broken. These liquid level gauge glasses shall be guarded against physical damage.

5. Pressure-type filters shall be equipped with a reliable pressure gauge and shall not be operated at pressures exceeding those for which they are designed. The filters shall be provided with an air-bleeding valve and line connected to discharge into the washer or into the storage tank vent line. Such air-bleeding lines shall not discharge into the room.

6. When underground treating and settling tanks are used, a separate suction and discharge connection shall be provided to the pump for removal of sludge. The suction pipe shall be carried to the tank bottom, and the discharge connection to a suitable container.

(d) The following apply to stills and condensers:

1. Steam or hot water only shall be used as the source of heat. If steam is used, a pressure regulating valve shall be installed in the steam supply line to the still.

2. Stills shall be designed for operation on the vacuum principle.

3. Stills and condensers shall be liquid and gas tight. If a relief valve is provided, it shall be equipped with a vent line extending to the outside.

4. Each still shall be provided with a combination vacuum and pressure gauge.

5. Each still shall be equipped with a constant level valve to automatically maintain the solvent liquid level in the still at the proper height.

(e) The following apply to washing machines:

1. Washing machines shall be substantially constructed. The loading door opening shall be equipped with a close fitting door so designed as to prevent solvent leaks due to splash. The machine shall be provided with interlocks to prevent cylinder rotation under power except for inching when doors are open.

i. Individual button and lint traps shall be provided for each washer.

2. The cylinders and shells of all washing machines shall be permanently and effectively grounded to dissipate static electricity in accordance with NFPA 77 listed in Appendix 3–A, incorporated herein by reference. The grounding of the cylinder in each case shall be through the trunnion shaft and, in cases where wooden cylinders are used, shall be grounded also across the inner surface of the cylinder.

3. Each washing machine shall be provided with an overflow pipe one size larger than the size of the solvent supply line to the machine. Such overflow pipe shall be connected to the shell of the washer so that the top of the overflow is below the bottom of the trunnion shaft; it shall be without shutoff valves and shall be arranged to discharge to a suitable tank. The supply pipe shall enter the washing machine above the charged liquid level.

4. In high hazard and moderate hazard systems, each washing machine shall be provided with an approved automatic fire suppression system in accordance with this Code and the building code in effect at the time of first occupancy.

(f) The following apply to drying tumblers and cabinets:

1. Drying tumblers in high hazard and moderate hazard systems shall be of substantial construction, well secured to substantial foundations, and shall be provided with self-closing explosion hatches having an area equal to at least one square foot for each 30 cubic feet of cylinder volume. Hatches shall be arranged to open away from the operator.

i. Drying tumblers in high hazard and moderate hazard systems shall be provided with a steam jet of not less than ⅜ inch size for humidifying during the drying process.

2. The cylinder and shell of all drying tumblers shall be permanently and effectively grounded to dissipate static electricity in accordance with NFPA 77 listed in Appendix 3–A, where provisions of this section do not specifically cover conditions and operations. The grounding of the cylinder in each case shall be through the trunnion shaft.

3. Drying tumblers and drying cabinets shall be ventilated to the outside air by means of properly constructed pipes or ducts connected to an exhaust fan of sufficient capacity to remove all dust, vapors, or lint generated by the process. Such discharge pipes or ducts shall be carried to a height of not less than six feet above the roof and shall be provided with cleanout facilities if used for the high hazard or moderate hazard systems.

i. Discharge pipes shall not terminate within 10 feet measured horizontally of any door, window or frame walls of any adjoining or adjacent building.

ii. The fan shall be properly housed and so interlocked as to insure operation while the drying tumbler is in use. The fan spiders, blades or running rings shall be constructed of non-ferrous metal. The fan motor shall not be mounted within the ventilating duct.

4. Each drying tumbler in high hazard or moderate hazard systems shall be provided with an approved automatic fire suppression system in accordance with this Code and the building code in effect at the time of first occupancy.

(g) The following apply to extractors:

1. Extractors shall be provided with liquid-tight covers, or they shall be designed so that none of the liquid solvent is thrown out of the extractor while it is in operation. Covers shall be equipped with automatic mechanical or electrical interlocks which will prohibit operating the extractors while the cover is open and which will prohibit opening the cover until the basket comes to rest. The basket shall have a rim of non-ferrous metal and shall be well balanced.

i. Extractors shall be provided with a drain pipe not less than 1½ inches in diameter connected direct to underground storage tanks or to a suitable above-ground container, or to the washer through an approved extractor pump with connections fitted with proper valves.

ii. Brakes, if used, shall be so designed as to prevent the creation of sparks or excessive heat.

2. The outside shell of extractors shall be permanently and effectively grounded for dissipation of static electricity in accordance with NFPA 77 listed in Appendix 3–A.

3. Extractors shall not be operated at a speed in excess of that prescribed by the manufacturer as shown on name plate, which must be provided on each machine.

4. Extractors equipped with a solvent spray nozzle for spray rinsing of garments after the primary extraction shall comply with the following provisions:

i. Installation of spray rinse equipment on existing extractors shall be subject to approval of the fire official.

ii. Extractor covers shall be made splashproof to prevent leakage of the solvent, and shall be equipped with a latch to hold the cover closed during operation.

iii. Supply pumps of positive displacement-type shall be provided with a bypass and relief valve set so as to prevent excessive pressure.

iv. Valves in the supply line between pump and outlet shall be installed in such a manner that the cutoff is effected ahead of any flexible portion of the supply line.

v. Extractor drain lines shall not be less than two inches for extractors up to and including 40 inches in diameter and three inches for extractors in excess of 40 inches in diameter.

vi. Extractors shall be provided with at least one drain line open at all times. If more than one extractor drain line is provided for the purpose of alternating use, quick opening valves or equivalent shall be installed in each line and interlocked so that when either valve is shut, the other valve is open.

vii. If a separate extractor drain tank is provided, it shall have a capacity equal to the combined total gallonage of the charged solvent extraction, the rinse and the rinse extraction.

viii. Drainage from extractors to all tanks shall be by gravity flow.

(h) The following apply to combination dry cleaning units:

1. Machines in which the washing and extracting cycles are complete within the same enclosure shall be of substantial construction. The machines shall be provided with splashproof doors, or covers, with interlocking means to prevent cylinder rotation, under power, except for inching at slow speed when doors or covers are open. Such interlocks shall provide that during the extracting cycle, opening of the door or cover will disconnect the drive motor and apply braking means to bring the cylinder to rest before access to cylinder is possible. Machines shall be provided with braking means to insure stoppage within reasonable time without the creation of sparks or excessive heat.

i. Cylinders shall be supported so as to provide sufficient clearance to prevent striking or rubbing adjacent parts during rotation.

ii. Individual button and lint traps with suitable lids shall be provided for each machine.

2. The cylinders and shells of all machines in high hazard and moderate hazard systems shall be permanently and effectively grounded to dissipate static electricity in accordance with NFPA 77 listed in Appendix 3–A, where the provisions of this section do not specifically cover conditions and operations.

3. Each machine shall be provided with an overflow pipe one size larger than the size of the solvent supply line to the machine. Such overflow shall be connected so that the top of the overflow is below the bottom of the trunnion shaft and arranged to discharge into a suitable tank. The supply pipes to machines, whether from pumps, filters or storage tanks, shall be arranged to deflect solvent steam away from tub openings.

4. The machine shall be furnished with name plate indicating maximum cylinder speed and a warning that it shall not be operated in excess of such speed.

5. Each machine in a high hazard and moderate hazard system shall be provided with an approved automatic fire suppression system in accordance with this Code and the building code in effect at the time of first occupancy.

(i) The following apply to scouring, brushing and spotting operations:

1. The brushing (prespotting) table shall have a liquid-tight top with a curb on all sides not less than one inch high. The top of the table shall be pitched so as to insure thorough draining to a 1½ inch drain connected to a suitable container especially provided and marked for that purpose.

2. All scouring or brushing and spotting (prespotting) operations utilizing solvents of a higher hazard than the solvent used in the plant dry cleaning machines shall be limited to one gallon and dispensed from an approved safety can. Additional storage shall be in approved safety cans of not over one gallon capacity, or in unopened shipping containers.

i. Scouring or brushing operations utilizing in excess of one gallon of solvents of a higher hazard than the solvent used in the plant dry cleaning machines shall be conducted only in a room or building conforming to all the requirements for a dry cleaning system utilizing the same type of solvent.

ii. The total amount of Class II and III solvents used on scouring or brushing tables or in scrubbing tubs, in accordance with (i)2i above, shall not exceed three gallons. The scouring or brushing table or scrubbing tub shall be so located as to insure thorough and effective disposal of vapors through the ventilating system. Scrubbing tubs shall be used only for articles, the character of which prevents their washing in the usual washing machines. Scrubbing tubs shall be secured to the floor and shall be provided with permanent 1½ inch trapped drains to a suitable container specially provided and marked for that purpose.

5:70–3.10 Dust explosion hazards

(a) Equipment, processes and operations which involve dust consisting of pulverized particles of any material which, if mixed with air in the proper portions, becomes explosive and may be ignited by flame or spark shall comply with the applicable requirements of this code and the provisions of this section, and shall be maintained in accordance with NFPA 61A, 61B, 61C, 65, 68, 69, 85F, 91, 120, 490, 651, 654, and 655 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

(b) General requirements pertaining to dust explosion hazards are as follows:

1. Equipment and processes in plants where dust hazards exist shall comply with the requirements of the

following paragraphs. Where specific requirements are not otherwise established, plants producing dusts shall comply with nationally recognized good practice.

2. All dust-producing or dust-agitating machinery, such as grinding mills and separators, and all elevators, elevator legs, spouts, hoppers and other conveyors shall be provided with casing or enclosures maintained as nearly dust-tight as possible.

3. Approved magnetic or pneumatic separators shall be installed ahead of all shellers, crackers, crushers, grinding machines, pulverizers and similar machines in which the entrance of foreign materials may cause sparks to be generated.

4. Suitable dust collecting equipment shall be installed and accumulation of dust shall be kept at a minimum in the interior of buildings.

5. All machinery and metal parts of the crushing, drying, pulverizing and conveying systems shall be electrically grounded in accordance with NFPA 77 listed in Appendix 3–A.

(c) Fire safety requirements are as follows:

1. Buildings and structures in which equipment or processes involving dust hazards are housed shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification and shall be provided with fire protection and fire extinguishing equipment as required by that code or by N.J.A.C. 5:70–4. Buildings and structures and their service equipment shall be maintained in a safe condition as required by this Code.

2. Smoking and the carrying of matches, the use of heating or other devices employing an open fire, or use of any spark producing equipment is prohibited in areas containing dust-producing or dust-agitating operations. Artificial lighting in such areas shall be by electricity with all wiring and electrical equipment installed in accordance with NFPA 70 listed in Appendix 3–A, incorporated herein by reference.

5:70–3.11 Crop ripening or coloring processes

(a) This section shall apply to the equipment and operations for the process of ripening bananas, tomatoes, pears or honeydew melons, and coloring tobacco, citrus fruits or other crops in tightly closed rooms, and shall include those processes where ethylene gas is introduced into the room to assist these processes.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which the process of ripening or coloring of crops is conducted shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe conditions as required by this Code.

2. The location of buildings in which crop ripening or coloring processes utilizing gas containers of ethylene are conducted shall be approved by the fire official.

i. The method for introducing ethylene shall provide positive control. The ethylene shall be measured so that the quantity introduced does not exceed one part ethylene to 1,000 parts of air.

ii. Containers storing ethylene gas shall be built in an approved manner.

iii. Ethylene gas containers other than those connected for use shall be stored outside of the building or in a special building except that not more than two portable U.S. Department of Transportation (DOT) containers not connected for use may be stored inside of the building premises. Such inside rooms or portions of buildings used for storage of these containers shall be constructed in accordance with N.J.A.C. 5:70–3.29(g)4.

iv. Ethylene piping shall be of steel pipe. Flexible connectors and hose, when used, shall be an approved type. Tubing shall be of brass or copper with not less than 0.049 inch wall thickness.

3. Electrical wiring and equipment shall be installed as specified in NFPA 70 listed in Appendix 3–A. Artificial lighting shall be by electricity only.

4. Heating of ripening and coloring rooms shall be by indirect means with low pressure steam, hot water or warm air; approved electric heaters; or approved gas heaters or approved kerosene heaters, both of which shall have sealed combustion chambers.

i. Steam and hot water pipes and radiators shall have a clearance of at least one inch to combustible material.

ii. Gas heaters and their vents shall be installed in an approved manner. Gas heaters shall be equipped with an automatic pilot device to shut off gas supply whenever the flame is extinguished.

iii. Burners for gas or kerosene heaters shall be installed so that air for combustion is taken from outside the ripening or coloring room and the products of combustion are discharged outside the building in an approved manner.

iv. Kerosene heaters shall be installed in accordance with the applicable provisions of the Building Code.

v. Electric heaters shall be of a type not having an exposed surface at a temperature higher than 800 degrees Fahrenheit and with thermostatic elements which do not produce sparks. They shall be of a type approved for use in hazardous locations.

vi. A protective guard shall be provided around any heater to prevent the possibility of its being knocked over by other equipment such as vehicles or lift trucks.

5. Open flame heaters and open lights shall not be permitted in ripening or coloring rooms using ethylene from gas tanks or cylinders. "No Smoking" signs shall be posted at every entrance and smoking shall be prohibited in the ripening or coloring rooms.

6. Rooms for ripening or coloring shall be frequently cleared of all combustible material.

Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–3.12 Fumigation and thermal insecticidal fogging

(a) Fumigation and thermal insecticidal fogging operations shall conform to the provisions of this section and all other applicable requirements of this Code.

(b) Fire safety requirements are as follows:

1. Any building where fumigation and thermal insecticidal fogging operations are conducting shall comply with the following fire protection and safety requirements.

2. All fires, open flames and similar sources of ignition shall be eliminated from the space under fumigation or thermal insecticidal fogging. Heating, if needed, shall be by indirect means with steam or hot water.

i. Electricity shall be shut off, except that circulating fans may be used provided such equipment is designed and installed so as not to create an ignition hazard. Electrical equipment shall be designed and installed in accordance with NFPA 70 listed in Appendix 3–A.

3. The fire official shall be notified in writing at least 24 hours before any building or structure is to be closed in connection with the use of any toxic or flammable fumigant. Such notification shall give the location of the building, structure, ship or enclosed space to be fumigated or fogged as well as its character and use, the fumigants or insecticides to be used, the person or persons in charge of the operation and the date and time when it will be started. Notice of any fumigation or thermal insecticidal fogging shall be served with sufficient advance notice upon the occupants of any building or other enclosed space involved in the operation to enable them to evacuate the premises.

i. Suitable warning signs indicating the danger, type of chemical involved and recommended precautions shall be posted on all doors and entrances to the premises and upon all gangplanks and ladders from the deck, pier or land to the ship. Such notice is to be printed in red ink on white background. Letters in the headlines are to be at least two inches in height and shall state the date and time of the operation, the name and address of the person, the name of the operator in charge, together with a warning to the effect that the premises so occupied shall be vacated at least one hour before the operation is started and must not be re-entered until the danger signs have been removed by the proper authorities.

ii. All persons engaged in the business of fumigation or thermal insecticidal fogging shall maintain and have available approved protective breathing apparatus.

iii. During the period fumigation is in progress, except when fumigation is conducted in a gastight vault or tank, a capable, alert watchman or watchmen shall remain on duty at the entrance or entrances to the building, ship, or enclosed space fumigated until after the fumigation is completed and until the premises are properly ventilated and again safe for human occupancy. Sufficient watchmen shall be provided to prevent any person from entering the building, ship or enclosed space under fumigation without being observed.

4. Thermal insecticidal fogging liquids with a flash point below 100 degrees Fahrenheit shall not be used.

5. The fire official shall require that any fire detection or alarm system components be safeguarded to prevent accumulation of the fogging agent or fumigant within the devices.

5:70–3.13 Lumber yards, exterior storage or processing of forest products and woodworking plants

(a) Lumber yards, exterior storage or processing of forest products and woodworking plants shall comply with the applicable requirements of this Code and the provisions of this section.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used for lumber yards or woodworking plants shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code and in accordance with NFPA 46 listed in Appendix 3–A, incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations.

2. Lumber shall be piled with due regard to stability of piles and in no case higher than 20 feet.

i. Driveways between and around lumber piles shall be at least 15 feet wide and maintained free from accumulation of rubbish, equipment or other articles or materials. Driveways shall be so spaced that a maximum grid system unit of 50 feet by 150 feet is produced.

ii. Permanent lumber storage shall be surrounded with a suitable fence at least six feet high, unless storage is within a building.

3. The burning of shavings, sawdust and refuse materials shall be permitted only under boilers, in furnaces or in incinerators or refuse burners safely constructed and located. Stacks shall be provided with approved spark arresters having openings not greater than ¾ inch, or other effective means provided, such as an expansion chamber, baffle walls or other effective arrangement, which will eliminate the danger from sparks. At the boiler or other points where sawdust or shavings are used as fuel, a storage bin of noncombustible construction with raised sill shall be provided.

4. Smoking shall be prohibited except in specified safe locations in buildings. Large "No Smoking" signs shall be painted on exterior building walls and on signs erected at edges of driveways. "No Smoking" signs shall be posted throughout all buildings except in specific locations designated as safe for smoking purposes.

5. Weeds shall be kept down throughout the entire yard and shall be sprayed as often as needed with a satisfactory weed killer or cut or grubbed out. Dead weeds shall be removed.

6. Debris such as sawdust, chips and shorts shall be removed regularly from piling areas and not less frequently than quarterly. Proper housekeeping shall be maintained at all times.

7. Portable fire extinguishing equipment suitable for the fire hazard involved shall be provided at convenient, conspicuous, accessible locations in open yards. When used, approved Class A portable fire extinguishers, properly protected against freezing where necessary, shall be provided so that the travel distance to the nearest unit does not exceed 75 feet. In buildings, fire protection equipment shall be provided as required by the building code in effect at the time of first occupancy.

(c) The following apply to woodworking plants:

1. Sawmills, planing mills and other woodworking plants shall be equipped with refuse removal systems which will collect and remove sawdust and shavings as produced, or suitable metal or metal-lined bins, provided with normally closed covers or automatically closing covers, shall be installed at or near such machines, and shavings and sawdust shall be swept up and deposited in such bins at sufficiently frequent intervals as to keep the premises clean. Blower and exhaust systems shall be installed in accordance with nationally recognized good practice.

2. Fire fighting equipment, either portable fire appliances or small hose supplied from a suitable water system, shall be provided near any machine producing shavings or sawdust.

3. Where specific requirements are not otherwise established, woodworking plants shall comply with NFPA 91 and 664 listed in Appendix 3–A, incorporated herein by reference.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Added exterior storage of forest products.

5:70–3.14 Industrial processing ovens and furnaces

(a) The following general provisions apply to industrial processing ovens and furnaces:

1. The provisions of this section shall apply to the location, design, construction and operation of industrial processing ovens and furnaces operating at approximately atmospheric pressures and temperatures not exceeding 1,400 degrees Fahrenheit which are heated with oil or gas fuel or which during operation contain flammable vapors from the product being processed. It is the intent of this section to provide for the operation of these ovens and furnaces within certain limitations of control depending on oven or furnace design, flammable formulations and ventilation needs, the disregard of which may cause them to function in an unsafe manner, thereby becoming liable to destruction by fire or explosion. Where applicable for maintenance, NFPA 86 listed in Appendix 3–A, incorporated herein by reference, shall be used where provisions of this section do not specifically cover conditions and operations.

2. An application for a permit shall be accompanied by plans showing all essential details as to location, design, construction, controls, and calculations for safe operation. The process and materials involved shall be fully described. Catalytic combustion systems utilized for the oxidation or combustion of the exhaust gases or vapors shall be described.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which industrial processing ovens and furnaces are installed or operated shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

(c) Location and construction requirements are as follows:

1. Ovens, furnaces and related equipment shall be located with due regard to the possibility of fire resulting from overheating or from the escape of fuel gas or fuel oil, and the possibility of damage to the building and injury to persons resulting from explosion.

2. Ovens and furnaces shall be located at or above grade, or, if in basements, at least 50 percent of the wall area of the room in which the oven or furnace is located shall be above grade.

3. Ovens and furnaces shall be so located as to be readily accessible for inspection and maintenance and with adequate clearances to permit the proper functioning of explosion vents. Roofs and floors of ovens and furnaces shall be sufficiently insulated and ventilated to keep temperatures at combustible ceilings and floors below 160 degrees Fahrenheit.

4. Ovens and furnaces shall be constructed of noncombustible materials throughout except where the maximum oven temperature is not over 160 degrees Fahrenheit. The amount of insulation used in oven panel construction shall be enough to prevent the outside surface temperature from exceeding 160 degrees Fahrenheit or adequate guards shall be provided to protect personnel. The metal frames of ovens or furnaces shall be electrically grounded.

5. Ovens and furnaces which may contain flammable air-gas mixtures shall be equipped with relief vents for freely relieving internal explosion pressures and all explosion-venting panels or doors shall be arranged so that when open, the full vent opening will be an effective relief area.

6. All duct work shall be constructed of noncombustible material. Ducts shall be made tight throughout and shall have no openings other than those required for the proper operation and maintenance of the system. Ducts passing through combustible walls, floors, or roofs shall have adequate insulation and clearances to prevent surface temperatures from exceeding 160 degrees Fahrenheit. Exhaust ducts shall not discharge near doors, windows or other air intakes in a manner that will permit reentry of vapors into the building.

(d) Ventilation requirements are as follows:

1. Ovens and furnaces in which flammable or toxic vapors are liberated or through which products of combustion are circulated shall be ventilated by the introduction of a supply of fresh air and proper exhaust to the outdoors. Discharge pipes shall not terminate within 10 feet measured horizontally of any door, window or wood frame walls of any building.

2. Ventilation shall be arranged to provide vigorous and well distributed air circulation within the oven or furnace to insure that the flammable vapor concentration will be safely below the lower explosive limit at all times. Unless the oven or furnace is operated in accordance with specific approval specifying particular solvents and rate of ventilation, the rate of ventilation shall not be less than 10,000 cubic feet of fresh air per gallon of solvent evaporated in continuous process ovens or furnaces, and not less than 380 cubic feet per minute per gallon of flammable solvent evaporated in batch process ovens or furnaces.

3. Exhaust duct openings shall be located in the area of greatest concentration of vapors.

4. All exhaust shall be by mechanical means using power driven fans.

5. Safety controls shall be sufficient in number and substantially constructed and arranged to maintain the required conditions of safety and prevent the development of fire and explosion hazards.

i. Ventilation controls, suitably interlocked, shall be provided which will insure the required preventilation and ventilation of the system.

ii. Fuel safety controls, suitably interlocked and arranged to minimize the possibility of dangerous accumulations of explosive air-fuel mixtures in the heating system, shall be provided.

iii. Excess temperature controls shall be provided to maintain a safe operating temperature within the oven or furnace.

iv. Conveyor interlocks shall be provided in conveyor ovens or furnaces having a flammable vapor hazard, so that the conveyor cannot move unless ventilating fans are operating and discharging the required amount of air.

5:70–3.15 Places of assembly and education

(a) General provisions concerning places of assembly and education are as follows:

1. The decoration, operation or use of places of assembly and education shall comply with the applicable requirements of this Code and the provisions of this section.

2. A place of assembly shall be a room or space accommodating individuals for religious, recreational, political, social or amusement purposes or for the consumption of food and drink, including all connected rooms or spaces with a common means of egress and entrance.

3. Each place of assembly or education, including each separate room or space used for purposes of assembly or education, shall be posted with an approved legible sign in contrasting colors conspicuously located near the main exit from the room or space stating the number of occupants permitted within such space. The number of occupants permitted shall be determined by the Fire Safety Code, N.J.A.C. 5:70–4.11(f). Assembly rooms or spaces which have multiple use capability shall be posted for all such uses. The owner shall be responsible for installing and maintaining such signs.

i. An owner shall not permit overcrowding or admittance of any person beyond the established posted occupant load of any place of assembly or education. The fire official, upon finding overcrowding conditions or obstruction in aisles, passageways or other means of egress, or upon finding any condition which constitutes a hazard to life and safety, shall cause the performance, presentation, spectacle or entertainment to be stopped until such a condition or obstruction is corrected and the addition of any further occupants prohibited until the posted occupant load is reestablished.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which rooms or places of assembly or education are located shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required. Buildings and structures and their service equipment shall be maintained in safe condition.

2. Employees or attendants of places of assembly and education shall be instructed in the proper use of portable fire extinguishers and other manual fire suppression equipment if provided.

3. A fire safety and evacuation plan shall be prepared as set forth in N.J.A.C. 5:70–3.3(p). All employees shall be trained in the duties they are to perform under the plan.

(c) The following apply to decorative material:

1. Decorative materials shall include all such materials as curtains, draperies, streamers, fabrics, cotton batting, straw, hay, vines, leaves, stalks, trees and moss used for decorative effect, including surface coverings applied over interior finish materials for acoustical or decorative purposes. All such decorative materials shall be noncombustible or they shall be flame resistant complying with the requirement of NFPA 701 listed in Appendix 3–A, incorporated herein by reference. The term decorative materials shall not include ordinary window shades or interior finish materials, such as wainscotting, paneling or wallpaper which are regulated by the Uniform Construction Code.

i. A finished floor covering shall be exempt from the requirements of this paragraph, provided, however, that in any case where the fire official finds a floor surface to be of unusual hazard, the floor surface shall be considered a part of the interior finish for the purposes of this code.

ii. No burlap, fish netting, or other similar type material shall be suspended from the ceiling of any building, unless approved by the fire official.

2. The fire official shall subject decorative materials, where required to be flame resistant, to a field test in accordance with Chapter 6 of NFPA 701 listed in Appendix 3–A.

i. Treatments used to accomplish this flameproofing shall be renewed as often as may be necessary to maintain the flameproof effect. The fire official may require a certificate to be supplied by the firm or person providing the flameproofing and such certificate shall indicate the date of treatment, the name of the chemical used, and nature of the process. The certificate shall be filed with the fire official.

ii. Pyroxylin coated fabric used as a decorative material in accordance with (c)1 above or as a surface covering on fixed furnishings shall be limited in amount to the following: such fabrics containing 1.4 ounces or more of cellulose nitrate per square yard shall not be used in excess of a total amount equivalent to one square foot of fabric surface to 15 cubic feet of room volume. Each square foot of such fabric which contains 1.7 ounces or more of cellulose nitrate per square yard shall be counted as two square feet in making this computation.

(d) In places of assembly or education, a motion picture screen or screen masking shall not be used which will ignite and allow flame to spread over the surface when exposed to the field test described in (c)2 above.

(e) The following apply to means of egress:

1. The operator or the person in charge of operation or use of any place of assembly or education shall check egress facilities before such building is occupied for any use, to determine compliance with the provisions of this section. If such inspection reveals that any element of the required means of egress is obstructed, inaccessible, locked, fastened or otherwise unsuited for immediate use, admittance to the building shall not be permitted until necessary corrective action has been completed.

i. As may be required by the fire official, not more than 10 minutes prior to the scheduled commencement of any activity, event, performance, show, meeting, function, or other occasion for which persons will gather at a place of assembly or education with a capacity of 50 or more people, the owner or his authorized agent shall orally notify all attendees concerning the location of the exits to be used in case of fire or other emergency, and shall also notify all attendees of smoking regulations.

ii. In theaters, motion picture theaters, auditoriums and other similar places of public assembly where there are noncontinuous programs, an audible or visual announcement shall be made immediately prior to the start of each program to notify occupants of the location of the exits to be used in case of a fire or other emergency.

2. During the period of occupancy, an egress door shall not be locked, bolted or otherwise fastened or obstructed by any means, so that the door cannot be opened from the inside by the use of the ordinary door latch or knob or by pressure on the door or on a panic release device except as provided in N.J.A.C. 5:70–3.5(c).

3. In each room where chairs, or tables and chairs, are used, the arrangement shall be such as to provide for ready access by aisles to each egress door. Aisles leading directly to an egress door shall have not less than 44 inches clear width. When serving an occupant load of 50 or less, such required clear width shall be 36 inches. Aisles shall not be obstructed by chairs, tables or other objects.

4. A part of a stairway, whether interior or exterior, or of a hallway, corridor, vestibule, balcony or bridge leading to a stairway or exit shall not be used in any way that will obstruct or restrict its use as a means of egress or that will present a hazardous condition.

5. A plan showing the occupant load, seating diagram and location of exits and of aisles leading thereto shall be submitted for approval to the fire official and an approved copy shall be kept on the premises. Temporary deviation from the specifics of the approved seating diagram shall be permitted provided the occupant load is not increased and the intent of this section is maintained.

i. The employees or attendants of places of public assembly and education shall be trained and drilled in the duties they are to perform in case of fire, panic or other emergency.

6. The signs and lighting of means of egress required for places of assembly or education shall be maintained in proper operating condition as required by N.J.A.C. 5:70–3.5(e).

(f) The following apply to projection rooms:

1. Every projection room shall be of permanent construction consistent with the requirements of the building code in effect at the time of first occupancy.

2. Temporary projection rooms shall be permitted for incidental amusement and educational purposes by the fire official when in accordance with N.J.A.C. 5:70–3.

3. Each projection room shall be provided with rewind and film storage facilities. A maximum of four containers for flammable liquids not greater than 16 ounce capacity and of a nonbreakable type may be permitted in each projection room.

Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

Case Notes

Occupancy load levels for restaurant were governed by code requirements in effect at time certificate of occupancy should have been issued. Sweetwater Casino v. Department of Community Affairs, 95 N.J.A.R.2d (CAF) 56.

5:70–3.16 Service stations, garages and fuel dispensing operations

(a) General provisions concerning service stations, garages and fuel dispensing operations are as follows:

1. The provisions of this section shall apply to all service stations and all other locations where flammable and combustible fuels are stored and dispensed to motor vehicles, and all buildings and structures used for the storage or servicing of motor vehicles. The maintenance provisions of NFPA 30A listed in Appendix 3–A, incorporated herein by reference, shall apply where the provisions of this section do not specifically cover conditions and operations.

2. The layout, arrangement and construction of buildings and structures shall comply with the applicable requirements of the building code in effect at the time of first occupancy and shall be provided with fire protection and fire extinguishing equipment as required.

3. All service stations, garages, buildings, storage areas and premises shall be operated and maintained in a safe condition at all times and shall conform to all applicable provisions of this Code.

(b) Flammable and combustible liquids used or intended to be used as fuel for motor vehicles shall be stored in underground or approved aboveground tanks on the premises in conformance with N.J.A.C. 5:70–3.28.

1. Flammable and combustible fuel may be stored in approved containers inside a building provided the total amount does not exceed 120 gallons.

(c) Fuel dispensing requirements are as follows:

1. Motor vehicle fuels shall be transferred from underground storage tanks to vehicle tanks by means of approved dispensing units located at least 15 feet from a property line. A pump or other mechanical equipment for dispensing Class I flammable liquids shall not be installed inside a building or less than 10 feet from the outside of the building unless it has been specifically approved by the construction official. The transfer of such liquids shall not be made into an open container.

2. Special type dispensers, such as coin or card operated devices, for self-service operations shall be installed and operated in accordance with the Uniform Construction Code.

3. These provisions shall not prevent the use of portable or semi-portable tanks and dispensing devices to refuel vehicles or motorized equipment on property not generally accessible to the general public provided specific approval is obtained from the fire official.

(d) The following apply to fuel pumps and dispensers:

1. Dispensers shall be designed to prevent leakage or accidental discharge and shall be provided with remote master control devices to shut off all pumps in the event of an emergency. Such devices shall be adequately identified as pump shutoff controls.

2. All dispensers shall be protected from vehicle damage by mounting them on a concrete platform at least 6 inches in height extending a minimum of 12 inches beyond the dispenser in any direction.

i. When the protective devices required above are diminished in effectiveness by repaving or other circumstances, additional safeguards shall be provided such as pipe bollards or guard rails.

3. All dispenser hoses shall be equipped with automatic self-closing type nozzles.

4. Each service station open to the public shall have an attendant on duty familiar with the location of pump controls and operation of safety equipment.

5. An approved, rigidly anchored emergency shutoff valve designed to close automatically in the event of a fire or severe impact shall be properly installed in the liquid supply line at the base of each dispenser supplied by a remote pump. The valve shall be so installed that the shear groove is flush with or within ¾ inch of the top of the concrete dispenser island, and that there is ample clearance provided around the valve body and operating parts. In cases of overhead-type dispensers, the valve shall be installed at the liquid supply line inlet of each dispenser. If installed, a vapor return line inside the dispenser housing shall have a shear section or approved flexible connector so that the liquid supply line emergency shutoff valve will function properly. All emergency shutoff valves shall further be installed and maintained in accordance with the manufacturer's instructions, shall be tested at the time of initial installation and shall be tested at least yearly thereafter by manually tripping the hold-open linkage.

(e) Fire safety requirements are as follows:

1. Motors of vehicles receiving fuel shall be shut off during the fueling operation. Smoking shall not be permitted in areas where motor vehicles are fueled or serviced.

2. All heating and ventilating appliances and equipment shall comply with the provisions of the building code in effect at the time of first occupancy. Other devices generating a glow, spark or flame capable of igniting flammable vapors shall not be installed or used within 18 inches of the floor of a building without proper ventilation.

3. Floor drains to oil or gasoline separators or traps discharging to the sewer shall be installed in accordance with the Uniform Construction Code. Contents of oil separators or traps of floor drainage systems shall be collected at sufficiently frequent intervals and removed from the premises to prevent oil from being carried into the sewers. Self-closing metal cans shall be used for all oily waste or waste oils.

4. A Class I flammable liquid shall not be used in any building for washing parts or removing grease or dirt.

5. Service station buildings shall not contain basements or rooms partially below grade. Pits in service areas shall comply with the requirements of the Uniform Construction Code.

6. Fire extinguishers shall be provided in all service stations of a size, type and location approved by the fire official, and shall be maintained in accordance with NFPA 10 listed in Appendix 3–A, incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations.

7. Warning signs shall be visibly posted in every fuel dispensing area. The signs shall indicate: Smoking is prohibited; and, Engine must be shut off during refueling; and additional signage as required by N.J.A.C. 5:70–3.28(b)2iii.

8. Operating instructions shall be visibly posted on every pump at a private unattended fuel dispensing area.

(f) Marine service stations shall be installed and operated in conformance with NFPA 30A and 303 listed in Appendix 3–A, incorporated herein by reference.

(g) The following apply to gaseous motor fuels:

1. Motor fuel service stations which store, handle and dispense gaseous motor fuels in addition to or instead of flammable and combustible liquid motor fuels shall comply with the provisions of this section.

2. The storage, handling and dispensing of LP gas as a motor fuel shall comply with the requirements of N.J.A.C. 5:70–3.30 and NFPA 58 listed in Appendix 3–A, incorporated herein by reference.

3. The compressing, storage, handling and dispensing of natural gas as a motor fuel shall comply with the applicable provisions of NFPA 54 listed in Appendix 3–A, incorporated herein by reference.

4. The use of liquefied petroleum gas (LP gas) and compressed natural gas (CNG) for self-service operations in service stations open to the public shall be prohibited.

Amended by R.1995 d.58, effective March 6, 1995.
See: 26 N.J.R. 4258(a), 27 N.J.R. 878(b).

5:70–3.17 Tents and air-supported and other temporary structures

(a) General provisions concerning tents and air-supported and other temporary structures are as follows:

1. The provisions of this section shall apply to air-supported, air-inflated, membrane-covered cable and membrane-covered frame structures, collectively known as membrane structures, erected for a period of less than 90 days.

i. Membrane structures erected for more than 90 days shall comply with the building code in effect at the time of first occupancy.

ii. This section shall not apply to membrane structures that do not require a permit under N.J.A.C. 5:70–2.7(b)3iii.

2. The entire membrane or air-supported structure system shall be inspected at regular intervals to assure that the installation is maintained in proper condition.

i. Every three months, the owner of the membrane or air-supported structure shall file a maintenance inspection report. The inspection report shall verify that the structure has been inspected and serviced by a qualified representative of the structure's manufacturer.

ii. All anchors shall be inspected daily and shall be adjusted or repaired immediately to insure a secure base attachment and seal.

iii. The fabric envelope shall be inspected daily and any fabric damage shall be repaired immediately to prevent more extensive damage.

(b) Construction requirements are as follows:

1. All structures shall be constructed and erected in conformance with requirements of the building code in effect at the time of first occupancy and maintained in accordance with NFPA 102 listed in Appendix 3–A, incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations.

2. All membrane shall be constructed of flame resistive materials or materials treated to render the material flame resistant in a manner approved by the fire official. The membrane material shall be either noncombustible as defined in N.J.A.C. 5:70–3.2 or flame resistant conforming to NFPA 701 listed in Appendix 3–A, incorporated herein by reference.

3. An affidavit or affirmation shall be submitted to the fire official and a copy retained on the premises on which the membrane or air-supported structure is located, attesting to the following information relative to the flame resistance of the fabric:

i. The names and addresses of the owners of the membrane or air-supported structure;

ii. The date fabric was last treated with flame resistant solution;

iii. The trade name or kind of chemical used in treatment;

iv. The name of person or firm treating the material; and

v. The name of testing agency and test standard by which the fabric was tested.

4. Operating pressure shall be maintained at the design pressure specified by the manufacturer to assure structural stability and to avoid excessive distortion during high wind or snow loads.

5. Under high wind over 50 miles per hour or snow conditions, the use of doors in air-supported structures shall be controlled to avoid excessive air loss. Doors shall not be left open under any conditions.

(c) The following apply to means of egress:

1. All membrane or air-supported structures, and every balcony or tier thereof considered separately, shall be provided with means of egress meeting the following provisions:

i. At least two exits as remote from each other as practical and leading directly to the outside shall be provided. When the occupant load exceeds 500, additional exits shall be provided in accordance with Table 3.17(c)1 below.

ii. The length of travel to an exit shall not be greater than 100 feet.

iii. The aggregate clear width of all elements of a means of egress from any membrane or air-supported structure shall be determined on a basis of not less than one unit of 22 inches width for each 100 persons. Exit openings shall not be less than 36 inches wide and aisles, corridors or passageways shall not be less than 44 inches wide.

iv. Grandstands and bleachers shall comply with the requirements of the building code in effect at the time of first occupancy in respect to occupant loading, type of construction, design, aisles and seats.

v. The height of doors, aisles or passageways shall in no case be less than 6 ⅞ feet.

vi. When exit doors are located above the ground level, a ramp approved by the fire official shall be provided on both sides of the doorway.

vii. Exit doors from air-supported structures shall swing in the direction of exit travel. All such doors shall be capable of automatically closing against operating pressures. Fasteners on the door shall be capable of being readily opened from the inner side. The opening force on the door shall not exceed 15 pounds.

viii. Exit openings from any tent shall remain open or may be covered by canvas provided said coverings shall be free sliding on a proper support. The support shall not be less than 12 inches above the top of the opening. The coverings shall be so arranged that, when open, no part of the covering shall obstruct the opening; and, said coverings shall be of a color or colors which definitely contrast with the color of the tent.

ix. Exits, aisles and passageways leading to them shall be adequately lighted at all times when said structures are occupied. Artificial light shall be provided whenever natural light is inadequate.

x. Exit doorways shall be adequately indicated by signs reading "Exit" in red letters on a white background or in other approved distinguishable colors.

Sign letters shall be at least six inches high and not less than ¾ inch in width. "Exit" signs shall be illuminated in membrane and air-supported structures with occupant loads over 100 persons in the following manner:

(1) Two separate electrical sources for occupant loads over 600; and

(2) Two separate electrical circuits, one of which shall be separate from other circuits, for occupant loads under 600.

Table 3.17(c)1.
NUMBER OF ADDITIONAL EXITS

Capacity	Minimum number of exits
501 to 900	3
901 to 1,500	4
over 1,500	one additional for each 500 persons

(d) Fire safety requirements are as follows:

1. Hay, straw, shavings or similar combustible materials shall not be allowed within any tent or air-supported structure used for public assembly other than that necessary for the daily feeding and care of animals. Sawdust and shavings may be used for a public performance or exhibit when kept damp. Combustible materials shall not be permitted under stands or seats at any time. The area within, and adjacent to the membrane or air-supported structure, shall be maintained clear of all flammable material or vegetation which will create a fire hazard within a distance of 20 feet from the structure. All combustible trash shall be regularly (daily) removed from the structure during the period that the structure is used by the public.

2. Gasoline, gas, charcoal or other cooking device or any other unapproved, open flame shall not be allowed inside or within 20 feet of the membrane or air-supported structure.

3. Spot or effect lighting shall be by electricity only; all combustible construction within six feet of such equipment shall be protected with approved noncombustible insulation.

4. Membrane or air-supported structures shall not be used for the display of motion pictures unless safety film is used.

5. Proper clearance shall be maintained between the fabric envelope and all material or equipment stored inside the air-supported structure. There shall be a minimum clearance of at least three feet between the envelope and the inside contents.

6. Fire extinguishing equipment of approved types shall be furnished by the owner or operator of membranes or air-supported structures in such amount and in such locations as may be directed by the fire official. Such fire extinguishing equipment shall be maintained in proper working order and shall be operated by employees of said operation who shall be properly trained for the purpose, and who shall be required to exhibit their skill on order of the fire official.

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).
Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Tents up for more than 90 days are subject to the building code; tents smaller than 90 square feet are not.

5:70–3.18 Vehicle tire rebuilding plants

(a) The equipment, processes and operation of automobile tire rebuilding and recapping plants shall comply with the applicable requirements of this Code and the provisions of this section.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used for tire rebuilding or recapping shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. Fire doors or other opening protectives to exit or elevator enclosures or similar shaft enclosures required by the Uniform Construction Code shall be kept closed except when the opening is in actual use.

3. When tire rebuilding plants are required to be separated from other uses in the building by the Uniform Construction Code, such separation shall be maintained in good condition and shall not be pierced or broken in any manner. When a sprinkler system is required in a tire rebuilding plant, it shall be maintained in proper and continuous working order.

4. Buffing machines shall be located in a room separated from the remainder of the plant as required by the Uniform Construction Code and fire doors in such separations shall be maintained free of all obstructions at all times. Each machine shall be connected to an ample dust collecting system conforming to NFPA 91 listed in Appendix 3–A, incorporated herein by reference.

5. Each room where rubber cement is used or mixed, or flammable or combustible solvents are applied, shall be equipped with effective mechanical or natural ventilation.

5:70–3.19 Vehicle wrecking yards, junkyards, and waste material handling plants

(a) General provisions concerning vehicle wrecking yards, junkyards and waste material handling plants are as follows:

1. The equipment, processes and operation of vehicle wrecking yards, junkyards and waste material handling plants shall comply with the applicable requirements of this Code and the detail provisions of this section.

2. Materials stored within a vehicle wrecking yard, junkyard or waste material handling plant shall not be located as to seriously expose adjoining or adjacent properties to any hazard of fire or explosion.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used in connection with a vehicle wrecking yard or waste material handling plant shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. Reasonably safe aisles, driveways and uniform passageways shall be provided to permit reasonable access for firefighting operations. This shall include areas where stripped vehicle bodies are stored.

3. Picking rooms shall be provided with exhaust systems of sufficient capacity to remove dust and lint.

4. The burning of wrecked or discarded vehicles, or any parts thereof, or junk, or any waste materials shall be prohibited unless specifically authorized by the fire official.

5:70–3.20 Welding or cutting, calcium carbide and acetylene generators

(a) Welding or cutting shall include gas, electric arc or flammable liquid welding or cutting or any combination thereof. The operation and maintenance of equipment for use of such materials shall comply with the provisions of this section and NFPA 51 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

(b) For the purpose of this section and as used in this Code, the following words and terms shall have the meaning shown:

"Machine" means a device in which one or more torches using fuel gas and oxygen are incorporated.

"Manifold" means an assembly of pipe and fittings for connecting two or more cylinders for the purpose of supplying gas to a piping system or directly to a consuming device.

"Oxygen manifold, high pressure" means a manifold connecting oxygen containers having a U.S. Department of Transportation (DOT) service pressure exceeding 200 psig.

"Oxygen manifold, low pressure" means a manifold connecting oxygen containers having a DOT service pressure not exceeding 200 psig.

"Piping" means rigid conduit.

"Portable outlet header" means an assembly of piping and fittings used for service outlet purposes which is connected to the permanent service piping by means of hose or other nonrigid conductors.

"Station outlet" means the point at which gas is withdrawn from the service piping system.

"Tubing" means semi-rigid conduit.

(c) General requirements are as follows:

1. In the performance of welding or cutting operations, only approved equipment shall be used and the equipment shall be installed and operated in accordance with nationally recognized good practice.

2. A permit for welding or cutting operations shall not be issued unless the individuals in charge of performing such operations are capable of doing such work in a safe manner. Demonstration of a working knowledge of the provisions of this section shall constitute acceptable evidence of compliance with this requirement.

3. Companies, corporations, copartnerships and owner-operators required to have a permit shall maintain a record of all locations where welding or cutting operations are performed and have it available for inspection by the fire official.

(d) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures designed and approved for welding shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. Before welding or cutting operations are begun in areas not designed or approved for the purpose, specific authorization shall be obtained from the owner of the premises or a duly authorized agent.

3. When welding or cutting operations are performed above or within 35 feet of combustible construction or material exposed to the operation, or within 35 feet of the floor, ceiling or wall openings so exposed, the requirements listed in (d)3i through iii below shall be met:

i. Such combustible construction or material shall be protected by noncombustible shields or covers from possible sparks, hot metal or oxide.

ii. Such floor, ceiling or wall openings shall be protected by noncombustible shields or covers.

iii. A fire watcher shall be provided to watch for fires, make use of portable fire extinguishers or fire hose, and perform similar fire prevention duties. The fire watcher shall remain on the job at least 30 minutes after the welding or cutting operations have been completed to insure that no fire exists. A signed inspection report attesting to that fact shall be filed and available for inspection by the fire official.

4. One portable fire extinguisher having a rating of not less than 2–A:20–B:C shall be kept at the location where welding or cutting is to be done, and one portable fire extinguisher having a rating of not less than 2–A:10–B:C shall be attached to all portable welding carts.

5. Welding or cutting shall not be done in or near rooms or locations where flammable gases, liquids or vapors, lint, dust or loose combustible stocks are present when sparks or hot metal from the welding or cutting operations may cause ignition or explosion of such materials.

6. Except as provided herein, welding or cutting shall not be performed on containers and equipment which contain or have contained flammable liquids, gases or solids until these containers and equipment have been thoroughly cleaned or inerted or purged; except that "hot tapping" may be permitted on tanks and pipe lines.

7. Sprinkler protection shall not be shut off while welding or cutting work is being performed. When welding or cutting is done close to automatic sprinkler heads, sheet asbestos or damp cloth guards may be used to shield the individual heads, but shall be removed when the work is completed.

(e) Gas welding and cutting requirements are as follows:

1. Devices or attachments facilitating or permitting mixture of air or oxygen with combustible gases prior to consumption, except at the burner or in a standard torch or blow pipe, shall not be allowed unless approved for the purpose.

2. Fuel gas cylinders stored inside of buildings, except those in actual use or attached ready for use, shall be limited to a total capacity of 2,000 cubic feet of gas or 300 pounds of liquefied petroleum gas. Storage exceeding 2,000 cubic feet total gas capacity of cylinders or 300 pounds of liquefied petroleum gas shall be in a separate room in accordance with (h)4 and (h)4i below, or cylinders shall be stored outside or in a separate building. All compressed gas cylinders in storage or in service shall be adequately secured to prevent falling or being knocked over.

i. Separate rooms or buildings for fuel gas storage shall be well ventilated. Heating shall be by steam, hot water or other indirect means. Heating by flames or fires shall be prohibited in outside generator houses or inside generator rooms or in any enclosure communicating with them. All electrical wiring and equipment in outside generator houses or inside generator rooms shall be reasonably safe to persons and property. When electrical wiring and equipment are used in outside generator houses or inside generator rooms, such electrical wiring and equipment shall be of a type approved for use in Class I, Division 2, hazardous locations as specified in NFPA 70 listed in Appendix 3–A, incorporated herein by reference, and such equipment shall be installed in accordance with nationally recognized safe practice. Sources of ignition shall be prohibited in outside generator houses or inside generator rooms.

ii. Cylinders permitted inside of buildings shall be stored at least 20 feet from highly combustible materials and where they will not be exposed to excessive rise in temperature, physical damage or tampering by unauthorized persons.

iii. Oxygen cylinders in storage shall be separated from fuel gas cylinders or combustible materials (especially oil or grease), a minimum distance of 20 feet or by a noncombustible barrier at least five feet high having a fire resistance rating of at least one-half hour.

iv. Oxygen cylinders shall not be stored in inside acetylene generator rooms.

v. Oxygen cylinders stored in outside generator houses shall be separated from the generator or carbide storage rooms by a noncombustible partition having a fire resistance rating of at least one hour. This partition shall be without openings and shall be gas-tight.

vi. Cylinders of dissolved acetylene shall be stored with the valve end up to minimize the possibility of solvent being discharged as liquid.

3. When moving compressed gas cylinders by crane, suitable cradles shall be used to prevent the possibility of dropping them. Ordinary rope slips or electromagnets shall not be used.

4. Fuel gas cylinders shall be placed with valve end up whenever they are in use.

5. The user shall not transfer gases from one cylinder to another or mix gases in a cylinder.

6. When a cylinder is not in use, the valve shall be closed and the valve protection cap shall be in place, hand-tight.

7. A cylinder or cylinder manifold for oxygen shall be provided with a pressure regulating device intended for use with oxygen, and so marked.

8. Empty cylinders shall have their valves closed while in storage and during shipment.

9. Fuel gas shall not be used from cylinders through torches or other devices equipped with shutoff valves without reducing the pressure through a suitable regulator attached to the cylinder valve or manifold.

i. Pressure adjusting screws on regulators shall be fully released before the regulator is attached to a cylinder and the cylinder valve opened.

ii. Before a regulator is removed from a cylinder valve, the cylinder valve shall be closed and the gas released from the regulator.

10. Valves on cylinders or compressed gas shall be opened slowly.

11. Cylinders, valves, regulators, hose and other apparatus and fittings containing or using oxygen shall be kept free from oil or grease. Oxygen cylinders, apparatus and fittings shall not be handled with oily hands, oily gloves, or greasy tools or equipment.

12. Acetylene gas shall not be generated, piped (except in approved cylinder manifolds and cylinder manifold connections), or utilized at a pressure in excess of 15 psig unless dissolved in a suitable solvent in cylinders manufactured according to DOT 49 CFR listed in Appendix 3–A, incorporated herein by reference. Acetylene gas shall not be brought in contact with unalloyed copper except in a blowpipe or torch.

13. Oxygen and fuel gas cylinders and acetylene generators shall be placed far enough away from the welding area to prevent them from being heated by radiation from heated materials, by sparks or slag, or by misdirection of the torch flame.

14. When gas welding or cutting operations are discontinued for a substantial period of time, such as during lunch hour or overnight, the torch valve shall be closed and the gas supply to the torch completely shut off.

15. Welding or cutting work shall not be supported on compressed gas cylinders or containers.

16. Tests for leaks in any piping system or equipment shall be made with soapy water. Flames shall not be used.

(f) Electric arc welding and cutting requirements are as follows:

1. The frame or case of electric arc welding or cutting machines, except internal combustion engine driven machines, shall be grounded. Ground connections shall be mechanically strong and electrically adequate for the required current.

2. Welding current return circuits from the work to the machine shall have proper electrical contact at all joints and periodic inspection shall be made to ascertain that proper electrical contact is maintained.

3. When electric arc welding or cutting is to be discontinued for any period of time of one hour or more, all electrodes shall be removed from the holders, the holders shall be carefully located so that accidental contact cannot occur, and the machines shall be disconnected from the power source.

(g) The following apply to calcium carbide systems:

1. Containers used for the storage of calcium carbide shall be of metal of sufficient strength to insure handling without rupture, and shall be provided with a screw top or its equivalent. They shall be of water-tight and air-tight construction. Solder shall not be used on joints in such manner that fire would disrupt the package. Packages shall be marked "Calcium carbide—Dangerous If Not Kept Dry".

2. Storage of calcium carbide inside buildings shall be in a dry, waterproof and well ventilated location.

i. Calcium carbide not in excess of 600 pounds may be stored inside of buildings or in the same room with fuel gas cylinders, but not with oxygen cylinders.

ii. Calcium carbide in excess of 600 pounds, but not in excess of 5,000 pounds, shall not be stored in a building containing other uses unless in an acetylene generator room or separate room or compartment in a one-story building without a basement underneath the carbide storage section. Such rooms shall be separated from the remainder of the building by construction having a fire resistance rating required under the applicable provisions of the building code in effect at the time of first occupancy. Openings to other parts of the building shall be protected by approved self-closing fire doors. Adequate ventilation shall be provided. This storage room shall not be used for any other purpose.

3. Calcium carbide in excess of 5,000 pounds shall be stored in buildings not exceeding one story in height without a basement and used for no other purpose, or in outside acetylene generator houses. Location of such storage buildings shall be outside congested mercantile and manufacturing districts. If the storage building is of noncombustible construction, it may adjoin other one-story buildings if separated therefrom by unpierced fire walls; if detached less than 10 feet from such building or buildings, there shall not be an opening within that distance. If the storage building is of combustible construction, it shall not be within 20 feet of any other one of two-story building, nor within 30 feet of any other building exceeding two stories.

(h) The following apply to acetylene generators:

1. Acetylene generators shall be of approved type, and shall be plainly marked with the rate in cubic feet of acetylene per hour for which they are designed, the amount or weight of carbide necessary for a single charge, the manufacturer's name and address, and the name or number of the type of generator.

2. Stationary generators shall be installed either in a well ventilated one-story noncombustible outside generator house, or in a well ventilated room or compartment of ample size and of construction as outlined in (h)4 below, either in a one-story building or on the top floor or roof of a multistory building. The storage of fuel gas cylinders in such rooms or compartments shall not exceed a total capacity of 2,000 cubic feet of gas, 300 pounds in case of liquefied petroleum gas.

3. The walls or partitions, floor and ceiling of such room or compartment shall be constructed having fire resistance ratings as required by the applicable provisions of the building code in effect at the time of first occupan-

cy. At least one wall of an inside generator room shall be an exterior wall.

i. Openings from a generator room or compartment to other parts of the building shall be protected by an approved self-closing fire door of the swinging type and close into a rabbet, or otherwise be made tight to prevent passage of flame around the edge. Exit doors shall be located so as to be readily accessible in case of emergency. Windows, if provided in partitions, shall be wired glass in approved metal frames with fixed sash.

ii. A portion of the exterior wall equal to not less than 10 percent of the combined areas of the enclosing walls shall be of light noncombustible material such as single thickness, single strength glass. Single thickness, single strength window glass skylights, or lightly fastened roof hatch covers, swinging doors in exterior wall opening outward, sheet metal siding or lightly fastened roofs, may be accepted in part or entirely in lieu of the glass area or its equivalent, provided the required percentage of explosion venting area is thus obtained.

4. Portable generators shall not be used in rooms of total volume less than 35 times the total gas generating capacity per charge of all generators in the room. The gas generating capacity in cubic feet per charge shall be assumed as four and one-half times the weight of carbide per charge in pounds. Generators shall not be used in rooms having a ceiling height less than 10 feet. An acetylene generator shall not be moved by derrick, crane or hoist while charged.

5. Generators shall be placed where water will not freeze. Common salt (sodium chloride) or other corrosive chemical shall not be used as a protection against freezing.

6. Cylinders of fuel gases stored inside a building, except those in actual use or attached ready for use, shall be limited to a total capacity of 2,000 cubic feet of gas or 300 pounds of liquefied petroleum gas. For storage in excess of 2,000 cubic feet total gas capacity of cylinders or 300 pounds of liquefied petroleum gas, a separate room or compartment as required by (g)2ii above shall be provided, or cylinders shall be kept outside or in a special building. Buildings, rooms or compartments provided for such storage shall be well ventilated and shall be without open flame heating or lighting devices.

7. Cylinders or oxygen stored inside of buildings shall comply with the requirements for oxygen manifolds covered in (i)2 below.

(i) The following apply to piping manifolds and hose systems for fuel gases and oxygen:

1. Except as herein provided, piping shall be steel, wrought iron, brass or copper pipe, or seamless copper, brass or stainless steel tubing. Piping and fittings shall comply with nationally recognized good practice except that pipe and fittings shall be standard weight as a minimum for sizes not over six inches in normal size.

i. Acetylene piping shall be steel or wrought iron pipe only.

ii. Oxygen piping at pressures in excess of 700 pounds per square inch shall be stainless steel or nonferrous tubing.

iii. Joints in steel or wrought iron pipe shall be welded or made up with threaded or flanged fittings, or rolled, forged or cast steel, or malleable iron fittings may be used. Joints in brass or copper pipe may be welded, brazed, threaded or flanged. Joints in seamless copper, brass or stainless steel tubing shall be by approved gas tubing fittings or shall be brazed. Socket type points in brass or copper pipe or in seamless copper, brass or stainless steel tubing shall be brazed with silver brazing alloy or similar high melting point filler. Cast iron fittings shall be prohibited. Threaded connections in oxygen piping shall be tinned, or made up with litharge and glycerine, or other joint compound approved for oxygen service and applied to male threads only.

iv. Piping shall be protected against physical damage, and allowance made for contraction, expansion, jarring and vibration. If laid underground, it shall be below the frost line and protected against corrosion. Low points in piping shall be provided with drip pots and drain valves, the latter to be normally closed with screw cap or plugs.

v. All piping shall be tested and proved tight at one and one-half times its maximum working pressure. Any medium used for testing oxygen lines shall be oil free.

vi. All buried pipe and tubing and outdoor ferrous pipe and tubing shall be covered or painted with a suitable corrosion-resisting material.

2. Oxygen manifolds shall not be located in an acetylene generator room. Oxygen manifolds shall be located at least 20 feet away from both highly flammable material, such as oil or grease, and combustible gas cylinders unless the combustible gas cylinders are separated by a fire resistive partition constructed as required by (g)2ii above.

i. The aggregate capacity of oxygen cylinders connected to one manifold inside a building shall not exceed 6,000 cubic feet. More than one such manifold may be located in the same room provided the manifolds are at least 50 feet apart.

ii. An oxygen manifold connected to cylinders having an aggregate capacity of more than 6,000 cubic feet shall be located outside, in a separate building, or in a separate room constructed in accordance with (g)2ii above with no combustible material within 20 feet of the manifold.

iii. Oxygen manifolds with service pressures not exceeding 200 psig shall be marked:

"Low Pressure Manifold

Do Not Connect High Pressure Cylinders"

iv. The aggregate capacity of fuel gas cylinders connected to one manifold inside a building shall not exceed 3,000 cubic feet of gas or 300 pounds of liquefied petroleum gas. More than one such manifold may be located in the same room provided the manifolds are at least 50 feet apart.

v. A fuel gas manifold connected to cylinders having an aggregate capacity of more than 3,000 cubic feet of gas or 300 pounds of liquefied petroleum gas shall be located outside, in a separate building, or in a separate room constructed in accordance with (g)2ii above.

3. Hose shall be capable of withstanding a hydrostatic pressure of at least 800 psi.

i. A single hose having more than one gas passage, a wall failure of which would permit the flow of one gas into the other gas passage, shall not be used.

ii. Single and double hose, except as provided herein, shall be identified by exterior colors using green for oxygen hose, red for acetylene, LP-gas and other fuel gases and black for inert gases and air hose.

iii. When two hoses are joined by a web to form integral lengths of double hose, the color of both hoses shall be red, and the exterior surface of oxygen hose shall be smooth to the touch, while fuel gas hose shall be corrugated or ribbed.

iv. When parallel lengths of oxygen and acetylene hose are taped together for convenience and to prevent tangling, there must be at least one foot between taped sections and the taped section shall not be more than two inches in length.

v. Hose connections shall be clamped or otherwise securely fastened in a manner that will withstand, without leakage, twice the pressure to which they are normally subjected in service, but not less than a pressure of 300 psi.

vi. Hose shall be inspected frequently for leaks, burns, worn places, loose connections or other defects which may render the hose unfit for service. Where hose shows excessive wear or has been subjected to flashback, it shall be inspected and tested at twice the normal pressure to which it is subjected in service, but not at less than 200 psi before being returned to service. Defective lengths of hose shall be discarded.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Time period at (f) changed to one hour or more.

5:70–3.21 Cellulose nitrate motion picture film

(a) The equipment, processes and operation of the storage and handling of cellulose nitrate motion picture film, hereafter referred to as "nitrate film," shall comply with NFPA 40 listed in Appendix 3–A, incorporated herein by reference.

(b) A person shall not sell, lease or otherwise dispose of any nitrate film to any person not having a permit to handle, use or display such film.

(c) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures used for the use or storage of flammable film shall comply with the applicable requirements of the Uniform Construction Code for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

5:70–3.22 Cellulose nitrate (pyroxylin) plastics

(a) The equipment, processes and operations for the storage or handling of any plastic substance, material or compound other than cellulose nitrate film covered by N.J.A.C. 5:70–3.21, having cellulose nitrate as a base, by whatever name known, when in the form of blocks, slabs, sheets, tubes or fabricated shapes shall comply with NFPA 40E listed in Appendix 3–A, incorporated herein by reference.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which cellulose nitrate (pyroxylin) plastics are used or stored shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code. Smoking shall be in accordance with N.J.A.C. 5:70–3.3(k).

2. All new and existing buildings or any portions of the building used for the manufacture or storage of articles of cellulose nitrate (pyroxylin) plastic shall be equipped with an approved automatic fire suppression system as required by the building code in effect at the time of first occupancy. Vaults located within buildings for the storage of raw pyroxylin shall be protected with an approved automatic sprinkler system capable of discharging 1.66 gallons per minute (gpm) per square foot over the area of the vault.

3. In buildings or rooms where cellulose nitrate (pyroxylin) plastics are handled or stored, heating systems shall be installed in accordance with the requirements of the building code in effect at the time of first occupancy.

5:70–3.23 Combustible fibers

(a) The equipment, processes and operations for handling, storage or use of combustible vegetable or animal fibers, including, among others, readily ignitable and free burning fibers such as cotton, sisal, henequen, ixtel, jute, hemp, tow, cocoa fiber, oakum, baled waste, baled waste paper, kapok, hay, straw, Spanish moss, excelsior, certain synthetic fibers and cloth in the form of scraps and clippings, shall comply with the applicable requirements of this Code and the provisions of this section.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures involving the storage or use of combustible fibers shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. Loose combustible fibers (not in suitable bales or packages), whether housed or in the open, shall not be stored within 100 feet of any building, except as hereinafter specified.

i. Not more than 100 cubic feet of loose combustible fibers may be kept in any building, provided storage is in a metal or metal-lined bin equipped with a self-closing cover.

ii. Quantities exceeding 100 cubic feet of loose combustible fibers, but not exceeding 500 cubic feet, may be stored in rooms or compartments having floor, walls and ceiling with a fire resistance rating of not less than one hour. Each opening into such rooms or compartments from other parts of the building shall be equipped with an approved opening protective. Such fire separations shall comply with the applicable requirements of the building code in effect at the time of first occupancy.

iii. Quantities exceeding 500 cubic feet of loose combustible fibers may be stored in approved vaults, constructed as required by the Uniform Construction Code.

iv. A maximum of 2,500 cubic feet of loose fibers may be stored in a detached "loose house" suitably located, with openings properly protected against entrance of sparks. The "loose house" shall not be used for any other purpose.

3. A single block or pile shall not contain more than 25,000 cubic feet of fiber exclusive of aisles or clearances. Blocks or piles of baled fiber shall be separated from adjacent storage by aisles not less than five feet wide, or by flash fire barriers consisting of continuous sheets of noncombustible material extending from floor to a height of at least one foot above the highest point of piles and projecting at least one foot beyond the sides of the piles.

i. Sisal and other fibers in bales bound with combustible tie ropes, and also jute and other fibers liable to swell when wet, shall be stored to allow for expansion in any direction without endangering building walls, ceilings or columns. Not less than three feet clearance shall be left between walls and sides of piles, except that if the storage compartment is not more than 30 feet in width, one foot clearance at side walls will be sufficient, provided a center aisle not less than five feet wide is maintained.

4. Not less than three feet clearance shall be maintained between the sprinklers and tops of piles.

5. A person shall not store hay, straw or similar agricultural products adjacent to buildings or combustible material unless a cleared horizontal distance equal to the height of pile is maintained between such storage and combustible material and buildings. Storage shall be limited to stacks of 100 tons each. Unlimited quantities of hay, straw and other agricultural products may be stored in or near farm buildings located outside closely built areas. A permit shall not be required for agricultural storage.

6. Ashes, waste, rubbish or sweepings shall not be kept in wood or other combustible receptacles and shall be removed from the building daily. Grass or weeds shall not be allowed to accumulate at any point on the premises.

5:70–3.24 Compressed gases

(a) The equipment, processes and operations of bulk oxygen systems for the storage, handling and use of compressed gases, as defined herein, shall comply with the applicable requirements of this Code and the provisions of this section, and shall be maintained in accordance with NFPA 50, 99, and 99C listed in Appendix 3–A incorporated herein by reference, where the provisions of this section do not specifically cover conditions and operations. Liquefied petroleum gases and compressed gases used in conjunction with welding or cutting operations are exempt from these provisions.

(b) For the purpose of this section and as used in this Code, the following words and terms shall have the meaning indicated.

"Bulk oxygen system" means an assembly of equipment, such as oxygen storage containers, pressure regulators, safety devices, vaporizers, manifolds and interconnecting piping, which has a storage capacity at normal temperature and pressure of more than 13,000 cubic feet of oxygen connected in service or ready for service, or more than 25,000 cubic feet of oxygen, including unconnected reserve on hand at the site. The bulk oxygen system terminates at the point where oxygen at the service pressure first enters the supply line. The oxygen may be stored as a liquid or gas in either stationary or portable containers.

"Gaseous hydrogen system" means a facility in which hydrogen is delivered, stored and discharged in the gaseous form to consumer piping. The system includes stationary or movable containers, pressure regulators, safety relief devices, manifolds, interconnecting piping and controls. The system terminates at the point where hydrogen at service pressure first enters the consumer's distribution piping.

"Nonflammable medical gas" means a compressed gas which is nonflammable and used for therapeutic purposes and includes, among others, oxygen and nitrous oxide.

"Piped distribution system" means a central supply system with control equipment, and a system of piping extending to the points in the hospital where nonflammable medical gases are used, and to suitable station outlet valves at each use point.

(c) Storage and use requirements are as follows:

1. The containers, systems and methods of use of compressed gases shall comply with the following conditions of this subsection.

2. Cylinders and pressure vessels shall be designed, constructed, tested and maintained in accordance with ANSI K61.1, DOT 49 CFR or NFPA 50, 50A, 99 or 99C listed in Appendix 3–A, incorporated herein by reference.

3. Each cylinder, pressure vessel or group of containers shall be marked with the name of the gas contained in accordance with DOT 49 CFR listed in Appendix 3–A.

4. Cylinders containing flammable anesthetics and nonflammable medical gases, in hospitals and similar facilities, shall be stored, handled and used so as to be reasonably safe to persons and property.

5. Piping systems shall not be used to distribute flammable medical gases in any hospital or similar facility. Piped distribution systems handling non-flammable medical gases, in hospitals and similar facilities, shall be installed and used in accordance with NFPA 99 listed in Appendix 3–A.

6. Bulk oxygen systems located at industrial and institutional consumer sites shall be installed and maintained in accordance with NFPA 50 listed in Appendix 3–A.

7. Anhydrous ammonia shall be stored and handled in accordance with ANSI K61.1 listed in Appendix 3–A.

8. Gaseous hydrogen systems shall be installed and maintained in accordance with NFPA 50A listed in Appendix 3–A.

9. All compressed gas cylinders in storage or in service shall be adequately secured to prevent falling or being knocked over. Separate cylinder storage or manifold enclosure shall be provided for flammable gases and oxidizing gases. Such enclosures shall serve no other purpose and shall be constructed in accordance with the requirements of the Uniform Construction Code.

5:70–3.25 Cryogenic liquids

(a) This section shall apply to the storage, handling and transportation of cryogenic liquids except that this section shall not include liquefied petroleum gas as defined in N.J.A.C. 5:70–3.30(a). The storage, handling and transportation shall comply with NFPA 50, 50A and 50B listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

(b) For the purpose of this section and as used in this Code, the following words and terms shall have the meaning indicated.

"Container" means any cryogenic vessel whether used for transportation or storage.

(c) The following apply to containers and equipment:

1. All containers, valves and piping shall be located so that they are readily accessible for inspection and repair and shall be protected against tampering.

2. All containers including piping, valves and pressure relief devices shall be located, designed and constructed in accordance with the requirements of the Uniform Construction Code and NFPA 50, 50B and 59A listed in Appendix 3–A, incorporated herein by reference, and they shall be maintained in a safe condition.

3. Warning labels and signs shall be posted on all containers and equipment.

(d) Fire safety requirements are as follows:

1. Dispensing of flammable cryogenic liquids, liquefied oxygen or liquid oxidizers shall be only at locations approved by the fire official. Water lines and hose shall be provided for cleaning and melting areas.

2. Flammable cryogenic liquids, liquid oxygen or cryogenic oxidizers shall not be loaded, unloaded, dispensed or handled where vapors can reach a source of ignition. Smoking shall be prohibited and "No Smoking" signs shall be conspicuously posted. Loading, unloading and dispensing of oxygen shall not be permitted in the vicinity of loading, unloading or dispensing of gaseous or liquid fuel.

(e) Transportation requirements are as follows:

1. Containers, tanks and vessels used for transporting cryogenic liquids shall meet all applicable requirements of the DOT 49 CFR listed in Appendix 3–A.

2. Vehicles used for transportation of cryogenic liquids shall be placarded at the front, rear and each side with the name of the product in addition to placards which are required by DOT 49 CFR listed in Appendix 3–A. Vehicles shall be equipped with at least one approved fire extinguisher with a minimum 20–B:C rating and with adequate wheel chock blocks.

5:70–3.26 Explosives, ammunition and blasting agents

(a) General provisions applicable to explosives, ammunition and blasting caps are as follows:

1. The equipment, processes and operations involving the manufacture, possession, storage, sale and use of explosives and blasting agents shall comply with the applicable requirements of this code and the provisions of this section and shall be maintained in accordance with NFPA 495 and DOT 49 CFR listed in Appendix 3–A, incorporated herein by reference, except as herein specifically exempted or where provisions of this section do not specifically cover conditions and operations.

2. Exceptions: Nothing in this section shall be construed as applying to the following uses:

i. The possession, storage, transportation or use of explosives or explosive weaponry in any form by the Armed Forces of the United States or of a state;

ii. Explosives in forms prescribed by the official United States Pharmacopoeia;

iii. The sale or use of fireworks which are regulated by N.J.A.C. 5:70–3.27;

iv. The possession, transportation and use of small arms ammunition for personal use;

v. The possession, storage, transportation and use of not more than 15 pounds of smokeless powder and 1,000 small arms primers for hand loading of small arms ammunition for personal use;

vi. The possession, transportation and use of special industrial explosive devices that are legally permitted; or

vii. The transportation and use of explosives or blasting agents by the United States Bureau of Mines, the Federal Bureau of Investigation, the United States Secret Service or police and fire departments acting in their official capacity.

3. The following explosives shall not be permitted:

i. Liquid nitroglycerin;

ii. Dynamite (except gelatin dynamite) containing over 60 percent of liquid explosive ingredient;

iii. Dynamite having an unsatisfactory absorbent or one that permits leakage of a liquid explosive ingredient under any conditions liable to exist during storage;

iv. Nitrocellulose in a dry and uncompressed condition in quantity greater than 10 pounds net weight in one package;

v. Fulminate of mercury in a dry condition and fulminate of all other metals in any condition except as a component of manufactured articles not hereinafter forbidden;

vi. Explosive compositions that ignite spontaneously or undergo marked decomposition, rendering the products or their use more hazardous, when subjected for 48 consecutive hours or less to a temperature of 167 degrees Fahrenheit;

vii. New explosive until approved by DOT 49 CFR listed in Appendix 3–A, except that permits may be issued to educational, governmental or industrial laboratories for instructional or research purposes;

viii. Explosives condemned by DOT 49 CFR listed in Appendix 3–A;

ix. Explosives not packed or marked in accordance with the requirements of DOT 49 CFR listed in Appendix 3–A; and

x. Explosives containing an ammonium salt and a chlorate.

4. Any self-employed person in possession of a valid permit to use explosives for blasting purposes, issued by the New Jersey Department of Labor pursuant to N.J.A.C. 12:190–3.11, shall have an insurance coverage for blasting damage not less than $500,000 for property damage including explosion, collapse, and underground utility damage and $500,000 to $1,000,000 for personal injury.

i. Any person in possession of a valid permit to use explosives for blasting purposes, as outlined in (a)4 above, and who is not self-employed, shall not use explosives unless the employer is insured as specified in that paragraph.

ii. Proof of the possession of a valid insurance policy covering blasting damage shall be readily available for inspection at the site.

iii. Nothing in this section shall be construed as preventing greater insurance coverage for damage from blasting when requested by any person for whom blasting is being performed.

5. For the purpose of this section and as used in this Code, the following words and terms shall have the meaning shown.

"Carrier" means a person who engages in the transportation of articles or materials by rail, highway, water or air.

"Highway" means any public street, alley or road.

"Magazine" means any building, structure or other enclosure or container other than an explosives manufacturing building, used for the storage of explosives. Magazines shall be of five types as follows:

i. A Type 1 magazine means a permanent outdoor magazine used for storage of high explosives or other classes of explosives;

ii. A Type 2 magazine means an indoor or outdoor magazine that is portable or mobile; such as a skid magazine or a trailer or semi-trailer used for the temporary storage of high explosives or other classes of explosives;

iii. A Type 3 magazine means a portable outdoor magazine; such as a "day-box" or a magazine on skids used, while attended, for the temporary storage of high explosives or other classes of explosives;

iv. A Type 4 magazine means an indoor or outdoor magazine used for the storage of low explosives, smokeless powder, or blasting agents. Detonators that will not mass detonate may also be stored in Type 4 magazines;

v. Type UG magazine means a magazine for the permanent storage of explosives in underground operations.

"Public conveyance" means any railway car, streetcar, cab, bus, airplane or other vehicle transporting passengers for hire.

"Railway" means any steam, electric or other railroad or railway which carries passengers for hire.

"Terminal" means those facilities used by carriers for the receipt, transfer, temporary storage or delivery of articles or materials.

"Testing blasting cap No. 8" means one containing two grams of a mixture of 80 percent mercury fulminate and 20 percent potassium chlorate, or a cap of equivalent strength.

"Vehicle" means a conveyance of any type operated upon the highways.

(b) Prohibitions on manufacture, storage, display and use are as follows:

1. The manufacture of explosives or blasting agents shall be prohibited unless such manufacture is authorized by the fire official. This shall not apply to hand loading of small arms ammunition for personal use when not for resale.

2. The storage of explosives and blasting agents is prohibited within the limits established by law as the limits of the district in which such storage is to be prohibited, except for temporary storage for use in connection with approved blasting operations, provided, however, this prohibition shall not apply to wholesale and retail stocks of small arms ammunition, explosive bolts, explosive rivets or cartridges for explosive-actuated power tools in quantities involving less than 500 pounds of explosive material.

3. The fire official may limit the quantity of explosives or blasting agents to be permitted at any location.

4. A person shall not sell or display explosives or blasting agents on highways, sidewalks, public property or in places of public assembly or education.

i. No person shall sell or use explosives without obtaining a permit for that purpose from the Commissioner of Labor, pursuant to the applicable provisions of N.J.A.C. 12:190.

(c) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which explosives, ammunition and blasting agents are permitted shall comply with the applicable provisions of this Code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

(d) Requirements for storage of explosives are as follows:

1. Explosives, including special industrial high explosive materials, shall be stored in magazines which meet the requirements of this section. This shall not be construed as applying to wholesale and retail stocks of small arms ammunition, explosive bolts, explosive rivets or cartridges for explosive-actuated power tools in quantities involving less than 500 pounds of explosive material. Magazines shall be in the custody of a competent person at all times who shall be at least 21 years of age, and who shall be held responsible for compliance with all safety precautions.

2. The fire official may authorize the storage of up to 50 pounds of explosives and 5,000 blasting caps in wholesale or retail hardware stores or other approved establishments. Explosives and blasting caps shall be stored in separate Type 2 and Type 4 indoor magazines at approved locations on the first floor not more than 10 feet from an entrance. A distance of 10 feet shall be maintained between the magazines. Their location shall not be changed without approval of the fire official. Two such magazines may be located in the same building provided one magazine is used for the storage of not more than 5,000 detonators and when a distance of ten feet is maintained between magazines.

3. Smokeless powder not exceeding 400 pounds intended for resale shall be stored in a warehouse or storage room which is not accessible to unauthorized personnel. It shall be stored in non-portable cabinets as follows:

i. Not more than two cabinets in a building and not more than 200 pounds of smokeless powder in a single cabinet.

ii. Cabinets shall be located against the walls of the warehouse or storage room with a minimum separation of 10 feet between cabinets.

iii. A cabinet for smokeless powder shall have walls at least one inch thick with an interior of non-sparking material. Shelves shall not exceed a three foot separa-

tion. The cabinet shall have at least one lock and hinges and hasps that cannot be removed when the door is closed and locked.

4. Magazines shall be located as provided in this subsection, except as specifically provided in (d)4ii below for Type 2 indoor magazines.

i. Type 1 magazines and Type 2 outdoor magazines shall be located outside of buildings. When used for the storage of high explosives, they shall be located no closer to inhabited buildings, passenger railways, public highways, or other magazines in which high explosives are stored than the distance specified in Table 3.26(d) below.

ii. The location, either outside or inside buildings, of Type 3 magazines, shall be as far as practicable from the neighboring inhabited buildings, railways, highways, and any other magazine, and shall be closely attended when in a use location.

iii. Type 4 outdoor magazines shall be located outside of buildings and, when used for the storage of low explosives, shall be located no closer to inhabited buildings, passenger railways, public highways, or other magazines in which explosives are stored than the distances specified in Table 3.26(d)1 below whether barricaded or unbarricaded. When a Type 4 outdoor magazine is used for storage of blasting agents, Table 3.26(d) below shall be used.

iv. Type 2 indoor and Type 4 indoor magazines shall be located as provided in (d)2 above.

5. Location of ammonium nitrate and blasting agents from high explosives or blasting agents shall be as follows:

i. Ammonium nitrate and ammonium nitrate based blasting agents shall be separated from nearby stores of high explosives or blasting agents referred to as the "donor" by the distances provided in Table 3.26(d)2 below;

ii. If storage of ammonium nitrate is located within the sympathetic detonation distance of explosives or blasting agents, one-half the mass of the ammonium nitrate shall be included in the mass of the "donor" when calculating separation distances;

iii. When ammonium nitrate or a blasting agent, or both, is not barricaded, the distances shown in Table (d)2 below shall be multiplied by six. These distances allow for the possibility of high velocity metal fragments from mixers, hoppers, truck bodies, sheet metal structures, metal containers and the like which may enclose the "donor." Where storage is in bullet-resistant magazines recommended for explosives or where the storage is protected by a bullet-resistant wall, the distances and barricade thickness need not exceed those prescribed in Table 3.26(d) below;

iv. Table 3.26(d)1 below shall apply to blasting agents which pass the insensitivity test prescribed in the definition of blasting agent;

v. Earthen dikes, sand dikes or enclosures filled with the required minimum thickness of earth or sand shall be acceptable artificial barricades. Hills of timber of sufficient density shall be acceptable natural barricades;

vi. For determining the distances to be kept from inhabited buildings, passenger railways, and public highways, Table 3.26(d) below shall apply. Ammonium nitrate, when stored with blasting agents or explosives, may be counted at one-half its actual weight.

TABLE 3.26(d)
HIGH EXPLOSIVES
DISTANCES IN FEET

Quantity of Explosives		Inhabited Buildings		Public Highways with Traffic Volume of 3,000 or less Vehicles/Day		Passenger Railways Public Highways with Traffic Volume of More Than 3,000 Vehicles/Day		Separation of Magazines	
Pounds Over	Pounds Not Over	Barricaded	Unbarricaded	Barricaded	Unbarricaded	Barricaded	Unbarricaded	Barricaded	Unbarricaded
2	5	70	140	30	60	51	102	6	12
5	10	90	180	35	70	64	128	8	16
10	20	110	220	45	90	81	162	10	20
20	30	125	250	50	100	93	186	11	22
30	40	140	280	55	110	103	206	12	24
40	50	150	300	60	120	110	220	14	28
50	75	170	340	70	130	127	254	15	30
75	100	190	380	75	150	139	278	16	32
100	125	200	400	80	160	150	300	18	36
125	150	215	430	85	170	159	318	19	38
150	200	235	470	95	190	175	350	21	42
200	250	255	510	105	210	189	378	23	46
250	300	270	540	110	220	201	402	24	48
300	400	295	590	120	240	221	442	27	54
400	500	320	640	130	260	238	476	29	58
500	600	340	680	135	270	253	506	31	62
600	700	355	710	145	290	266	532	32	64
700	800	375	750	150	300	278	556	33	66
800	900	390	780	155	310	289	578	35	70
900	1,000	400	800	160	320	300	600	36	72
1,000	1,200	425	850	165	330	318	636	39	78
1,200	1,400	450	900	170	340	336	672	41	82
1,400	1,600	470	940	175	350	351	702	43	86
1,600	1,800	490	980	180	360	366	732	44	88
1,800	2,000	505	1,010	185	370	378	756	45	90
2,000	2,500	545	1,090	190	380	408	816	49	98
2,500	3,000	580	1,160	195	390	432	864	52	104
3,000	4,000	635	1,270	210	420	474	948	58	116
4,000	5,000	685	1,370	225	450	513	1,026	61	122
5,000	6,000	730	1,460	235	470	546	1,092	65	130
6,000	7,000	770	1,540	245	490	573	1,146	68	136
7,000	8,000	800	1,600	250	500	600	1,200	72	144
8,000	9,000	835	1,670	255	510	624	1,248	75	150
9,000	10,000	865	1,730	260	520	645	1,290	78	156
10,000	12,000	875	1,750	270	540	687	1,374	82	164
12,000	14,000	885	1,770	275	550	723	1,446	87	174
14,000	16,000	900	1,800	280	560	756	1,512	90	180
16,000	18,000	940	1,880	285	570	786	1,572	94	188
18,000	20,000	975	1,950	290	580	813	1,626	98	196
20,000	25,000	1,055	2,000	315	630	876	1,752	105	210
25,000	30,000	1,130	2,000	340	680	933	1,866	112	224
30,000	35,000	1,204	2,000	360	720	981	1,962	119	238
35,000	40,000	1,275	2,000	380	760	1,026	2,000	124	248
40,000	45,000	1,340	2,000	400	800	1,068	2,000	129	258
45,000	50,000	1,400	2,000	420	840	1,104	2,000	135	270
50,000	55,000	1,460	2,000	440	800	1,140	2,000	148	280
55,000	60,000	1,515	2,000	455	910	1,173	2,000	145	290
60,000	65,000	1,565	2,000	470	940	1,206	2,000	150	300
65,000	70,000	1,610	2,000	485	970	1,236	2,000	155	310
70,000	75,000	1,655	2,000	500	1,000	1,263	2,000	160	320
75,000	80,000	1,695	2,000	510	1,020	1,293	2,000	165	330
80,000	85,000	1,730	2,000	520	1,040	1,317	2,000	170	340
85,000	90,000	1,760	2,000	530	1,060	1,344	2,000	175	350
90,000	95,000	1,790	2,000	540	1,080	1,369	2,000	180	360
95,000	100,000	1,815	2,000	545	1,090	1,392	2,000	185	370
100,000	110,000	1,835	2,000	550	1,100	1,437	2,000	195	390
110,000	120,000	1,855	2,000	555	1,110	1,479	2,000	205	410
120,000	130,000	1,875	2,000	560	1,120	1,521	2,000	215	430
130,000	140,000	1,890	2,000	565	1,130	1,557	2,000	225	450
140,000	150,000	1,900	2,000	570	1,140	1,593	2,000	235	470
150,000	160,000	1,935	2,000	580	1,160	1,629	2,000	245	490
160,000	170,000	1,965	2,000	590	1,180	1,662	2,000	255	510
170,000	180,000	1,990	2,000	600	1,200	1,695	2,000	265	530
180,000	190,000	2,010	2,010	605	1,210	1,725	2,000	275	550
190,000	200,000	2,030	2,030	610	1,220	1,755	2,000	285	570
200,000	210,000	2,055	2,055	620	1,240	1,782	2,000	295	590
210,000	230,000	2,100	2,100	635	1,270	1,836	2,000	315	630
230,000	250,000	2,155	2,155	650	1,300	1,890	2,000	335	670
250,000	275,000	2,215	2,215	670	1,340	1,950	2,000	360	720
275,000	300,000	2,275	2,275	690	1,380	2,000	2,000	385	770

TABLE 3.26(d)1
LOW EXPLOSIVES

Low Explosives			Distance in Feet from	
Pounds over	Pounds not over	Inhabited Building	Public Railroad and Highway	Above-ground Magazine
0	1,000	75	75	50
1,000	5,000	115	115	75
5,000	10,000	150	150	100
10,000	20,000	190	190	125
20,000	30,000	215	215	145
30,000	40,000	235	235	155
40,000	50,000	250	250	165
50,000	60,000	260	260	175
60,000	70,000	270	270	185

Low Explosives		Distance in Feet from		
Pounds over	Pounds not over	Inhabited Building	Public Railroad and Highway	Above-ground Magazine
70,000	80,000	280	280	190
80,000	90,000	295	295	195
90,000	100,000	300	300	200
100,000	200,000	275	275	250
200,000	300,000	450	450	300

TABLE 3.26(d)2
LOCATION OF AMMONIUM NITRATE AND BLASTING AGENTS FROM HIGH EXPLOSIVES OR BLASTING AGENTS

Donor* pounds over	Weight pounds not over	Minimum Separation Distance of Acceptor** When Barricaded (feet) Ammonium Nitrate	Blasting Agent	Minimum Thickness of Artificial Barricades (inches)
0	100	3	11	12
100	300	4	14	12
300	600	5	18	12
600	1,000	6	22	12
1,000	1,600	7	25	12
1,600	2,000	8	29	12
2,000	3,000	9	32	15
3,000	4,000	10	36	15
4,000	6,000	11	40	15
6,000	8,000	12	43	20
8,000	10,000	13	47	20
10,000	12,000	14	50	20
12,000	16,000	15	54	25
16,000	20,000	16	58	25
20,000	25,000	18	65	25
25,000	30,000	19	68	30
30,000	35,000	20	72	30
35,000	40,000	21	76	30
40,000	45,000	22	79	35
45,000	50,000	23	83	35
50,000	55,000	24	86	35
55,000	60,000	25	90	35
60,000	70,000	26	94	40
70,000	80,000	28	101	40
80,000	90,000	30	108	40
90,000	100,000	32	115	40
100,000	120,000	34	122	50
120,000	140,000	37	133	50
140,000	160,000	40	144	50
160,000	180,000	44	158	50
180,000	200,000	48	173	50
200,000	220,000	52	187	60
220,000	250,000	56	202	60
250,000	275,000	60	216	60
275,000	300,000	64	230	60

* High explosives and blasting agents are donors. Ammonium nitrate, by itself, is not considered to be a donor.
** Ammonium nitrate and blasting agents are acceptors.

Notes to Tables

(1) If any two or more Type 1 and Type 2 magazines are separated from each other by less than distances specified in the column reading "Separation of Magazines," the two or more magazines, as a group, shall be considered as one magazine. The total quantity of explosives stored in that group shall then be treated as if stored in a single magazine and shall comply with the distances from other magazines, inhabited buildings, railways, or highways of Table 3.26(d).

(2) For quantity and distance purposes, the following shall apply to blasting caps and detonating cord:

(A) All types of blasting caps in strengths through No. 8 cap shall be rated at one and one-half pound of explosives per 1,000 caps. For strengths higher than No. 8 caps, consult the manufacturer.

(B) Detonating cord of 50 to 60 grains shall be calculated as equivalent to nine pounds of explosives per 1000 feet. Heavier or lighter core loads shall be rated proportionately.

6. A Type 1 magazine shall be a permanent structure: a building, an igloo, a tunnel, or a dugout. It shall be resistant to fire, theft, bullets, and the weather, and shall have no openings except for entrances and ventilation. Materials and methods of construction shall be as follows:

i. Masonry wall construction shall consist of at least six inches of brick, concrete, tile, cement block, or cinder block. Hollow masonry units shall have all hollow spaces filled with well-tamped, coarse, dry sand or weak concrete (at least a mixture of one part cement and eight parts sand with enough water to dampen the mixture while tamping in place).

ii. Fabricated metal wall construction shall consist of sectional sheets of steel or aluminum not less than No. 14 gauge, securely fastened to a metal framework. Metal wall construction shall be either lined inside with brick, solid cement blocks, or hardwood not less than four inches thick, or shall have at least a six inch sand fill between interior and exterior walls.

iii. In wood frame wall construction, the exterior of outer wood walls shall be covered with iron or aluminum not less than No. 26 gauge. The interior wall shall be constructed so as to provide a space of not less than six inches between the outer and inner walls. The space shall be filled with coarse, dry sand or weak concrete.

iv. Interior walls shall be constructed of or covered with a non-sparking material.

v. Floor shall be constructed of or covered with a suitable non-sparking material and shall be strong enough to bear the weight of the maximum quantity of explosives to be stored.

vi. Foundations shall be constructed of brick, concrete, cement block, stone, or metal or wood posts. If piers or posts are used in lieu of a continuous foundation, the spaces thus created under the building shall be enclosed with fire-resistant material.

vii. Outer roofs shall be constructed of fabricated metal, tile, non-friable asbestos, concrete, or other fire-resistant material. Where it is possible for a bullet to be fired directly through the roof and into the magazine at such an angle that the bullet would strike the explosives stored within, the magazine shall be protected by one of the following methods: a sand tray lined with a layer of building paper, plastic or other non-porous material, and filled with not less than four inches of coarse, dry sand located at the tops of inner walls covering the entire ceiling area, except that portion necessary for ventilation; or a fabricated metal roof constructed of 3/16 inch plate steel lined with four inches of hardwood. For each additional 1/16 inch of plate steel, the hardwood lining may be decreased one inch.

viii. No sparking material shall be exposed to contact with stored explosive materials. All ferrous nails in the floor and side walls which might be so exposed shall be blind-nailed or counter-sunk on the floor and side walls covered with a lattice work or other non-sparking material.

ix. Igloo, tunnel, and dugout magazines shall be constructed of reinforced concrete, masonry, metal or a combination of these materials. They shall have an earth mound covering of not less than 24 inches on top, sides and rear unless the magazine complies with vii above.

x. Exterior doors shall be constructed of 1/4 inch plate steel and lined on the interior with two inches of hardwood.

xi. Hinges and hasps shall be attached to the doors by welding, riveting, or bolting with nuts on the inside of the door. The hinges and hasps shall be installed in such a manner that they cannot be removed when the door is closed and locked.

xii. Each door shall be equipped with one or more of the following: two mortise locks; or two padlocks fastened in separate hasps and staples. Padlocks shall have at least five tumblers and a case-hardened shackle of at least 3/8 inch diameter. Outdoor padlocks shall be protected with:

(1) One-quarter inch steel hoods constructed so as to prevent sawing or lever action on the locks or hasps;

(2) A combination of a mortise lock and padlock;

(3) A mortise lock that requires two keys to open;

(4) A three-point lock; or

(5) A bolt, lock or bar that cannot be actuated from the outside.

7. A Type 2 outdoor magazine shall be a box, trailer, semi-trailer, or other mobile facility. It shall be resistant to fire, theft, bullets and the weather and shall be supported in such a manner as to prevent direct contact with the ground. If less than one cubic yard in size, it shall be securely fastened to a fixed object to prevent theft of the entire magazine. Materials and methods of construction shall be as follows:

i. The exterior and covers of doors shall be constructed of 1/4 inch steel and shall be lined with two inches of hardwood. Magazines with top openings shall have lids with water-resistant seals or the lids shall overlap the side by at least one inch when in a closed position.

ii. Hinges and hasps, locks, padlocks, padlock protection, and sparking materials shall comply with the applicable provisions of (d)6 above.

8. A Type 2 indoor magazine shall be a portable or mobile magazine which is resistant to fire and theft. It need not be bullet- or weather-resistant if the building in which it is stored provides protection from the weather and from bullet penetration. Materials and methods of construction shall be as follows:

i. Wood magazines shall have sides, bottoms, and covers or doors constructed of two inches of hardwood and shall be well braced at corners. They shall be covered with sheet metal of not less than No. 20 gauge. Nails exposed to the interior of magazines shall be counter-sunk.

ii. Metal magazines shall have sides, bottoms, and covers or doors constructed of No. 12 gauge metal and shall be lined inside with a non-sparking material. Edges of metal covers shall overlap the sides at least one inch.

iii. Magazines for blasting caps (cap boxes) in quantities of 100 or less shall have sides, bottoms, and covers or doors constructed of No. 12 gauge metal and shall be lined with a non-sparking material.

iv. Hinges, hasps, locks, padlocks, padlock protection, and sparking materials shall comply with the applicable provisions of (d)5 above; except that only one padlock shall be required on a Type 2 indoor magazine that is located in a room that is also secured by a lock.

9. A Type 3 magazine shall be a "day-box" or other portable magazine which is resistant to fire, weather and theft. Materials and methods of construction shall be as follows:

i. A Type 3 magazine shall be constructed of not less than No. 12 gauge steel lined with at least 1/2 inch plywood or 1/2 inch Masonite-type hardboard.

ii. No sparking material shall be exposed to contact with stored explosive materials.

iii. Doors or covers shall overlap sides of Type 3 magazines by not less than one inch.

iv. Hinges and hasps shall be attached by welding or riveting by bolting with nuts on the inside.

v. One steel padlock which need not be protected by a steel hood, having at least five tumblers and a case-hardened shackle of not less than 3/8 inch diameter shall be provided for locking purposes.

10. A Type 4 outdoor magazine shall be a building, igloo, tunnel, dugout, box, trailer, semi-trailer or other mobile magazine which is resistant to fire, weather, and theft. Materials and methods of construction shall be as follows:

i. A Type 4 outdoor magazine shall be constructed of masonry, metal-covered wood, fabricated metal, or a combination of these materials.

ii. The walls and floors shall be constructed of, or covered with a non-sparking material, or lattice work.

iii. Foundations shall be constructed of brick, concrete, cement, block, stone or metal or wood posts. If piers or posts are used in lieu of a continuous foundation, the spaces thus created under the building shall be enclosed with fire-resistive material.

iv. The doors or covers shall be metal or solid wood covered with metal.

v. Hinges and hasps, locks, padlocks, padlock protection and sparking materials shall comply with the applicable provisions of (d)5 above.

11. A Type 4 indoor magazine shall be fire and theft resistant. It need not be bullet- or weather-resistant if the building in which it is stored provides protection from the weather and from bullet penetration. Materials and methods of construction shall be as follows:

i. Wood magazines shall have sides, bottoms, and covers or doors constructed of not less than one inch of hardwood and shall be well braced at corners. They shall be covered with sheet metal of not less than No. 26 gauge. Ferrous nails exposed to the interior of magazines shall be counter-sunk.

ii. Metal magazines shall have sides, bottoms, and covers or doors constructed of not less than No. 16 gauge metal and shall be lined inside with a non-sparking material.

iii. Hinges and hasps, locks, padlocks, padlock protection, and sparking materials shall comply with the applicable provisions of (d)4 above, except that only one padlock shall be required on a Type 4 indoor magazine that is located in a room that is also secured by a lock.

12. A Type UG magazine shall be used for the storage of not more than 5,000 pounds of explosives underground in underground mining operations and shall not be permitted unless the mining has progressed to a point where the magazine is at least 300 feet from any shaft, is at least 15 feet from any haulage way or travel way, has a travel way to the nearest means of egress with at least two sharp turns, could not impede evacuation of all persons in the event of detonation of the explosives in the magazine, and is at least 50 feet from any magazine containing blasting caps. A Type UG magazine shall be constructed in accordance with the following:

i. In solid rock with the front opening constructed in accordance with the applicable provisions of (d)4 above for Type 1 magazines, unless otherwise specified in this paragraph.

ii. Doors shall have at least No. 16 gauge metal outer covering or equivalent fire resistance protection and be lined with at least two inches of hardwood.

iii. Doors shall be provided with one padlock having at least five tumblers and a case-hardened shackle of at least ⅜ inch diameter. Outdoor padlocks shall be protected with ¼ inch steel hoods constructed so as to prevent sawing or lever action on the locks or hasps.

iv. Floors shall be wood lined or covered with wooden slats.

v. Provisions shall be made so that water will drain away.

vi. Adequate ventilation shall be provided.

vii. A conspicuous marking, reading "EXPLOSIVES" shall be provided.

13. Magazines shall not be provided with artificial heat and light, except that if artificial lighting is necessary, approved electric safety battery lamps or approved electric lights, wiring and equipment of a type designed for the hazardous location may be used.

14. Magazines shall be maintained in good repair. Before repairing the interior of magazines, all explosive material shall be removed and their interior shall be cleaned. Before repairing the exterior of magazines, all explosive materials shall be removed if there exists any possibility that repairs may produce sparks or flame. Any explosive material removed from magazines under repair shall be:

i. Placed in other magazines appropriate for the storage of those materials in accordance with this section; or

ii. Placed a safe distance from the magazine under repair, where they shall be properly guarded and protected until the repairs have been completed.

15. Smoking, matches, open flames, spark producing devices and firearms shall be prohibited inside or within 100 feet of magazines. Combustible materials shall not be stored within 100 feet of magazines.

i. The land surrounding magazines shall be kept clear of brush, dried grass, leaves, trash and debris for a distance of at least 50 feet.

ii. Magazines shall be kept locked except when being inspected or when explosives are being placed therein or being removed therefrom.

iii. Magazines shall be kept clean, dry and free of grit, paper, empty packages and rubbish.

iv. Detonators shall not be stored in the same magazine with other explosives, except as follows: detonators that will not mass detonate may be stored with electric squibs, safety fuses, igniters and igniter cords in a Type 1 or Type 2 magazine; and detonators may be stored with delay devices, electric squibs, safety fuses, igniter cords and igniters in a Type 1 or Type 2 magazine. Detonators are defined as any device containing a detonating charge that is used for initiating detonation in an explosive. The term includes, but is not limited to, electric blasting caps of instantaneous and delay types, blasting caps for use with safety fuses, detonating-cord delay connectors, and non-electric instantaneous or delay blasting caps.

v. Except with respect to fiberboard or other nonmetal containers, containers of explosive materials shall not be unpacked or repacked inside a magazine or within 50 feet of a magazine. Containers of explosive materials shall be securely closed while being stored.

vi. Magazines shall not be used for the storage of any metal tools or of any commodity except explosives, but this restriction shall not apply to the storage of blasting agents, blasting supplies and oxidizers used in compound blasting agents.

16. When an explosive has deteriorated to an extent that it is in an unstable or dangerous condition, or if nitroglycerin leaks from any explosive, then the person in possession of such explosive shall immediately report the fact to the fire official and upon his authorization shall proceed to destroy such explosives and clean floors stained with nitroglycerin in accordance with the instructions of the manufacturer. Only experienced persons shall do the work of destroying explosives.

17. Sign requirements are as follows:

i. On the premises where a Type 1 magazine, a Type 2 outdoor magazine or a Type 4 outdoor magazine is located, the holder of a "permit to store" explosives shall post a conspicuous sign reading "EXPLOSIVES—KEEP OFF" in letters at least three inches in height on a contrasting background, and so located that a bullet passing through the face of the signs will not strike the magazine.

ii. Type 2 and Type 4 indoor magazines shall be labeled "EXPLOSIVES—KEEP FIRE AWAY".

iii. All Type 3 magazines shall bear the word "EXPLOSIVES" in letters at least three inches in height and legible on a contrasting background.

iv. The provisions of (d)17 above shall not apply when it is deemed by the fire official that a warning sign would have counter-productive results.

(e) The following apply to the storage of blasting agents and supplies:

1. Blasting agents or oxidizers, when stored in conjunction with explosives, shall be stored in the manner set forth in (d) above for explosives. The quantity of blasting agents or oxidizers shall be included when computing the total quantity of explosives for determining distance requirements.

2. Buildings used for storage of blasting agents separate from explosives shall be located away from inhabited buildings, passenger railways and public highways in accordance with Table 3.26(d).

3. The interior of buildings used for the storage of blasting agents shall be kept clean and free from debris and empty containers. Spilled materials shall be cleaned up promptly and safely removed. Combustible materials, flammable liquids, corrosive acids, chlorates, nitrates other than ammonium nitrate or similar materials shall not be stored in any building containing blasting agents unless separated therefrom by construction having a fire resistance rating of not less than one hour. The provisions of this paragraph shall not prohibit the storage of blasting agents together with non-explosive blasting supplies.

4. Semi-trailers or full trailers may be used for temporarily storing blasting agents, provided they are located away from inhabited buildings, passenger railways and public highways, in accordance with Table 3.26(d). Trailers shall be provided with substantial means for locking, and the trailer doors shall be kept locked except during the time of placement or removal of blasting agents.

5. Piles of oxidizers and buildings containing oxidizers shall be adequately separated from readily combustible fuels.

6. Caked oxidizer, either in bags or in bulk, shall not be loosened by blasting.

(f) The following apply to the handling of explosives:

1. Buildings or other facilities used for mixing blasting agents shall be located away from inhabited buildings, passenger railways and public highways in accordance with Table 3.26(d).

2. Not more than one day's production of blasting agents or the limit determined by Table 3.26(d), whichever is less, shall be permitted in or near the building or other facility used for mixed blasting agents. Larger quantities shall be stored in separate buildings or magazines.

3. Compounding and mixing of recognized formulations of blasting agents shall be conducted in accordance with nationally recognized good practice.

4. Smoking or open flames shall not be permitted within 100 feet of any building or facility used for the mixing of blasting agents.

i. Tools used for opening packages of explosives shall be constructed of non-sparking materials.

5. Empty oxidizer bags shall be disposed of daily by burning in a safe manner in the open at a safe distance from buildings or combustible materials.

i. Empty boxes and paper and fiber packing materials which have previously contained high explosives shall not be used again for any purpose, but shall be destroyed by burning at an approved isolated location out of doors, and any person shall not be nearer than 100 feet after the burning has started. Explosives shall not be abandoned.

(g) Blasting requirements are as follows:

1. Blasting operations shall be conducted during daylight hours except when authorized at other times by the fire official.

2. The handling and firing of explosives shall be performed by the person possessing a permit issued by the N.J. Department of Labor pursuant to N.J.A.C. 12:190 to use explosives or by employees under that person's direct supervision who are at least 18 years old.

i. A person shall not handle explosives while under the influence of intoxicants or narcotics.

ii. A person shall not smoke or carry matches while handling explosives or while in the vicinity thereof.

iii. An open flame light shall not be used in the vicinity of explosives.

iv. A permit to blast does not confer any right or privilege to conduct business or perform any operation including storage or handling of explosives which is contrary to or in conflict with provisions of any law of the State of New Jersey or any Federal law.

3. At the site of blasting operations, a distance of at least 150 feet shall be maintained between magazines and the blast area when the quantity of explosives temporarily kept therein is in excess of 25 pounds, and at least 50 feet when the quantity of explosives is 25 pounds or less. When site restrictions are such that the distance specified herein cannot be met, then the magazine shall be moved from the site the required distance when the blasting is actually to be performed.

4. Whenever blasting is being conducted within 50 feet of gas, electric, water, fire, alarm, telephone, telegraph or steam utilities, the blaster shall notify the appropriate representatives of such utilities at least 24 hours in advance of blasting, specifying the location and intended time of such blasting. Verbal notice shall be confirmed with written notice. In an emergency this time limit may be waived by a fire official.

5. Before a blast is fired, the person in charge shall make certain that all surplus explosives are in a safe place, all persons and vehicles are at a safe distance or under sufficient cover, and a loud warning signal has been sounded.

6. Due precautions shall be taken to prevent accidental discharge of electric blasting caps from current induced by radio or radar transmitters, lightning, adjacent power lines, dust storms or other sources of extraneous electricity. These precautions shall include:

i. The suspension of all blasting operations and removal of persons from the blasting area during the approach and progress of an electrical storm;

ii. The posting of signs warning against the use of mobile radio transmitters on all roads within 350 feet of the blasting operations; and

iii. The blaster shall comply with the Safety Guide for the Prevention of Radio Frequency Radiation Hazards, IME No. 20–1981 (ANSI C–95–4), incorporated herein by reference.

7. When blasting is done in congested areas or in close proximity to a building, structure, railroad, highway or any other installation that may be damaged, the blast shall be covered before firing, with a mat constructed so that it is capable of preventing rock from being thrown into the air.

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).

5:70–3.27 Fireworks

(a) General provisions concerning fireworks are as follows:

1. The display, sale or discharge of fireworks shall comply with the requirements of this section.

2. Application for permits for display or discharge shall be made in writing at least 15 days in advance of the date of the display or discharge of fireworks. The sale, possession, use and distribution of fireworks for such display shall be lawful under the terms and conditions approved with the permit and for that purpose only. A permit granted hereunder shall not be transferable, nor shall any such permit be extended beyond the dates set out therein.

3. For the purpose of this section and as used in this Code, the following words and terms shall have the meaning indicated.

"Dangerous fireworks" means and includes the following:

(1) Toy torpedoes containing more than five grains of explosive composition;

(2) Paper caps containing more than .25 grain of explosive composition;

(3) Firecrackers or salutes exceeding five inches in length or ¾ inch in diameter;

(4) Cannons, canes, pistols, or other devices designed for use otherwise than with paper caps;

(5) Any fireworks containing a compound or mixture of yellow or white phosphorous or mercury;

(6) Any fireworks that contain a detonator or blasting cap;

(7) Fireworks compositions that ignite spontaneously or undergo marked decomposition when subjected for 48 consecutive hours to a temperature of 167 degrees Fahrenheit;

(8) Fireworks that can be exploded en masse by a blasting cap placed in one of the units or by impact of a rifle bullet or otherwise;

(9) Fireworks, such as sparklers or fuses, containing a match tip, or head, or similar igniting point or surface, unless each individual tip, head or igniting point or surface is thoroughly covered and securely protected from accidental contact or friction with any other surface; and

(10) Fireworks containing an ammonium salt and a chlorate.

"Fireworks" include any combustible or explosive composition, or any substance or combination of substances, or article prepared for the purpose of producing a visible or an audible effect by combustion, explosion, deflagration, or detonation.

"Fireworks factory building" means any building or other structure in which the manufacture of fireworks, other than sparklers, is carried on.

"Fireworks plant" means and includes all lands, with buildings thereon, used in connection with the manufacturing or processing of fireworks, as well as storehouses located thereon for the storage of finished fireworks.

"Highway" means any public street, public alley, public road, or navigable stream.

"Navigable streams" means streams susceptible of being used, in their ordinary condition, as highways of commerce, over which trade or travel are or may be conducted in the customary modes, but shall not include streams that are not capable of navigation by barges, tugboats and other large vessels.

"Railroad" means any steam, electric or other railroad which carries passengers for hire, but shall not include sidings or spur trucks installed primarily for the use of the fireworks plant.

(b) Sale and discharge requirements are as follows:

1. It shall be a violation of this Code for any person to store, to offer for sale, expose for sale, sell at retail, or use or explode any fireworks, except as provided for by the fire official when granting a permit for supervised displays of fireworks by the jurisdiction, fair association, amusement park, or other organization. Every such display shall be handled by a competent operator approved by the fire official. The fireworks shall be arranged, located, discharged or fired in a manner that, in the opinion of the fire official, will not be a hazard to property or endanger any person. In matters not specifically covered by this subsection, the provisions of NFPA 1123 and 1124 listed in Appendix 3–A, incorporated herein by reference, shall be deemed to provide adequate protection.

2. The governing body of any municipality may, upon application in writing accompanied by proof of proper insurance coverage, grant a permit for the public display of fireworks by municipalities, religious, fraternal or civic organizations, fair associations, amusement parks, or other organizations or groups of individuals, approved by the governing body of such municipality to whom the application is made. The governing body is authorized to grant such permission by resolution. After such permission shall have been granted, and a permit shall have been issued by the fire official, pursuant to N.J.A.C. 5:70–2.7(b)5, the possession and use of fireworks for such display shall be lawful for that purpose only.

i. All applications for permits shall set forth the date, the hour, the place of making such display, and the place for storing of fireworks prior to the display. The application shall also contain the names of the person, persons, firm, partnership, corporation, association, or group of individuals making the display, and the name of the person or persons in charge of the igniting, firing, setting-off, exploding or causing to be exploded such fireworks. The location of the storage place shall be subject to the approval of the fire official of the jurisdiction.

ii. The governing body of the municipality shall require insurance in a sum of not less than $500,000 conditioned for the payment of all damages, which may be caused either to a person or persons or to property, by reason of the display so as aforesaid permitted, and arising from any acts of the permit holder, his agents, employees, or subcontractors. Such surety shall run to the municipality in which the permit is granted, and shall be for the use and benefit of any person, persons, or the owner or owners of any property so damaged, who is or are authorized to maintain an action thereon, or his or their heirs, executors, administrators, successors or assigns.

3. Exceptions: Nothing in this section shall be construed to prohibit any resident wholesaler, dealer or jobber to sell at wholesale such fireworks as are not herein prohibited, or the sale of any kind of fireworks provided the same are to be shipped directly out-of-State, or the use of fireworks by railroads or other transportation agencies for signal purposes or illumination, or the sale or use of blank cartridges for a show or theater, or for signal or ceremonial purposes in athletic or sports, or for use by military organizations. Such wholesalers, dealers and jobbers shall store their supplies of fireworks in accordance with N.J.A.C. 5:70–3.26(d).

4. The fire official shall seize, take, remove or cause to be removed at the expense of the owner, all stocks of fireworks offered or exposed for display or sale, stored or held in violation of this section.

5. The use of what are technically known as fireworks showers, or of any composition containing potassium and sulphur, in theaters or public halls shall be subject to prior approval by the fire official and the following conditions shall apply:

i. Fireworks shall be discharged at a height no greater than four feet above the stage floor.

ii. Fireworks shall be discharged and operated in accordance with manufacturers directions and specifications.

iii. The owner/operator shall provide a full demonstration to the fire official prior to final operation.

iv. Fireworks shall be discharged so as not to endanger the public by escape of any hot particles from the stage area.

v. A fire watch, with proper extinguishing equipment as approved by the fire official, shall be maintained during the operation at both sides of the stage area.

6. It shall be unlawful to manufacture, sell, transport or use dangerous fireworks within the State.

(c) Manufacturing requirements are as follows:

1. No factory building shall be situated nearer than 200 feet from any inhabited building or to any highway or to any railroad, nor nearer than 50 feet from any building used for the storage of explosives or fireworks, nor nearer than 25 feet to any other factory building. This subsection shall not apply to factory buildings existing on March 25, 1930, in fireworks plants then in operation.

2. No building in a fireworks plant used for the storage of finished fireworks, other than those containing only sparklers, shall be situated nearer than 300 feet from any building not used in connection with the manufacture of fireworks, nor from any highway, railroad or navigable stream, nor within 300 feet of the property line of the fireworks plant. This subsection shall not apply to such storehouses existing on March 25, 1930.

3. All fireworks plants shall be enclosed on all sides by substantial fences and all openings to such enclosures shall be fitted with suitable gates, which, when not locked, shall be in charge of a competent watchman who shall have charge of the fireworks plant when it is not in operation.

4. Fireworks plants and all buildings situated within fireworks plant enclosures shall be equipped with suitable fire protection, commensurate with the hazard involved, to protect life and property from direct burning and exposure. Such fire protection shall be installed as directed by the fire official.

5. No stoves, exposed flame or electrical heating devices shall be used in any part of any fireworks plant, except in the boiler room or machine shop. No fireworks or chemicals are to be stored in those rooms. All parts of the buildings in fireworks plants shall be kept clean, orderly, and free from accumulations of dust or rubbish.

6. Fireworks in the finished state shall not be stored in buildings where fireworks are in process of manufacture.

7. No fireworks may be manufactured except such as shall be approved for transportation by the regulations of U.S. Department of Transportation.

8. Each outside package of fireworks shall bear upon the outside thereof the words "Fireworks—Handle Carefully—Keep Fire Away" in letters not less than 7/16 inch in height, and in addition shall show the name of the fireworks manufacturer.

9. No employee or other person shall enter or attempt to enter any fireworks plant with matches or other flame-producing devices, nor with liquor or narcotics in his or her possession or control, nor when under the influence of liquor or narcotics, nor partake of intoxicants or narcotics while in the plant.

10. No person shall smoke nor carry matches, a lighted cigar, cigarette, or pipe within any room or enclosed place or upon any part of a fireworks plant.

11. All fireworks plants shall be properly posted with "Warning" and "No Smoking" signs.

12. It shall be the duty of the superintendent, foreman or other person in charge of any fireworks plant to provide safety containers for matches at all main entrances of the plant, where all matches in the possession of all persons shall be deposited before entering the plant enclosure.

13. On receipt of an application to operate a fireworks plant, the fire official shall cause an inspection to be made of the premises described in the application for the purpose of determining whether they conform to the provisions of this chapter, and applicable sections of the Uniform Construction Code and N.J.A.C. 5:70–4.

14. A record of the certificates of registration issued and revoked shall be kept on file in the office of the Commissioner, and a notice sent to the fire official of each community in which a fireworks plant is located.

15. The owner or operator of any fireworks plant, within 60 days after demand therefor in writing by the Commissioner of Community Affairs, shall file and keep on file with the Department of Insurance of the State, an indemnity bond payable to the State of New Jersey in such sums as may be determined by the Commissioner and set forth in such demand, not in excess of $1,000,000 nor less than $500,000, with surety or sureties satisfactory to the Department of Community Affairs conditioned for the payment of all final judgments that may be rendered against such owner or operator for damages caused to persons and property by reason of any explosion at such fireworks plant of the product or component part or parts thereof there manufactured, processed or handled.

Case Notes

Discharge of fireworks as requested was neither a hazard to property nor an endangerment to any person and was allowed. Morris v. Division of Fire Safety, 95 N.J.A.R.2d (CAF) 50.

5:70–3.28 Flammable and combustible liquids

(a) General provisions concerning flammable and combustible liquids are as follows:

1. This section shall apply to the transportation, storage, handling and processing of flammable and combustible liquids as defined in N.J.A.C. 5:70–3.2. The provisions of NFPA 30 listed in Appendix 3–A, incorporated herein by reference, shall apply where the provisions of this section do not specifically cover conditions and operations.

2. A permit shall be obtained from the fire official in accordance with N.J.A.C. 5:70–2.7 for any of the following:

i. Storage, handling or use of Class I liquids in excess of five gallons in a dwelling or other place of human habitation, or in excess of 10 gallons in any other building or other occupancy, or in excess of 60 gallons outside of any building, except that no permit shall be required for:

(1) The storage or use of flammable liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant or mobile heating plant; or

(2) For the storage or use of paints, oils, varnishes or similar mixtures when such liquids are stored for painting or maintenance, or similar purposes upon the premises, and which are not stored for a period exceeding 30 days.

ii. Storage, handling or use of Class II combustible liquids or Class III combustible liquids in excess of 25 gallons in a building, or in excess of 60 gallons outside of a building, except for fuel oil used in connection with oil burning equipment in single family residential buildings.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which flammable liquids are used or stored shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in a safe condition as required by this Code.

2. Containers, tanks, equipment and apparatus and all piping, fittings and appliances used or intended to be used for the storage, handling, use or movement of flammable or combustible liquids shall be constructed and tested in accordance with NFPA 30 listed in Appendix 3–A and approved by the fire official.

i. All cans, containers or vessels which contain flammable liquids or flammable liquid compounds or mixtures and are offered for sale shall be provided with a warning label painted or printed on the container, stating said liquid is flammable and should be kept away from heat or open flame. All portable cans, containers or vessels which are empty and offered for sale and which are intended for the conveyance or storage of flammable liquids or flammable liquid compounds or mixtures shall be conspicuously marked with the name of the product which they are intended to contain.

ii. Portable containers intended to hold 10 gallons or less and to be used for gasoline or other flammable liquid shall be red in color. The name of the flammable liquid shall be prominently displayed on the container in bold letters of a contrasting color. The containers shall be of metal or approved plastic with a spring-loaded or screw cap. Containers for kerosene shall be blue.

iii. Wherever flammable liquids or kerosene are dispensed into or offered for sale in containers, there shall be a prominent sign located in a conspicuous location indicating the required color and construction of this container for each product sold. The sign shall not be less than 12 inches in the least dimension.

3. The fire official may prohibit the sale or use of any heating, lighting or cooking appliance using a flammable or combustible liquid when said appliance presents a hazard.

4. It shall be unlawful for any person to sell or offer for sale any Class I flammable liquid for the purposes of domestic cleaning.

5. All flammable or combustible liquids shall be dispensed in accordance with the following requirements:

i. Flammable liquids shall not be dispensed by gravity from tanks, drums, barrels or similar containers. Approved pumps, taking suction from the top of the container, shall be used. An exception may be granted when the viscosity of the liquid makes such a restriction impractical. Combustible liquids may be drawn from tanks, drums or barrels by gravity through an approved self-closing valve or faucet which is affixed directly on the container or a rigid closed piping system attached thereto. The provisions of this subparagraph shall not prohibit the temporary use of movable tanks in conjunction with the dispensing of flammable or combustible liquids into the fuel tanks of motor vehicles or other motorized equipment on premises not normally accessible to the public. Such installations shall only be made with the approval of the fire official.

ii. Flammable or combustible liquids shall not be dispensed by a device that operates through pressure within a storage tank, drum or container, unless the tank, drum or container has been approved as a pressure vessel for the intended use. Air or oxygen shall not be used to pressurize the approved vessel.

iii. Flammable or combustible liquids shall not be dispensed into a portable or stationary tank, drum or container which does not meet the requirements of this code.

iv. Fuel pumps and fuel dispensers shall be installed in accordance with N.J.A.C. 5:70–3.16.

6. A person shall not permit or cause to be permitted the discharge of flammable or combustible liquids, or any waste liquid containing petroleum or its products, into or upon any street, pavement, highway, drainage canal ditch, storm or sanitary drain or flood control channel, lake or waterway, or upon the ground. All waste petroleum products shall be stored in accordance with the requirements of this subchapter.

7. Class I flammable liquid shall not be used within a building for washing parts or removing grease or dirt unless it is used in a closed machine approved for such purpose or in a separately ventilated room constructed in accordance with the building code in effect at the time of first occupancy.

8. In locations where flammable vapors may be present, precautions shall be taken to prevent ignition by eliminating or controlling sources of ignition. Sources of ignition may include open flames, lightening, smoking, cutting or welding, hot surfaces, frictional heat, sparks (static, electrical, and mechanical), spontaneous ignition, chemical and physical-chemical reactions and radiant heat. The fire official may prohibit the use of devices or order the suspension of an operation when proper precautionary measures are not taken.

9. Flammable and combustible liquid spills and leaks shall be promptly reported to the fire official.

(c) Bulk processing or industrial plants, refineries or other plants and distilleries and all buildings, tanks and equipment used for the storage, processing, distillation, refining or blending of flammable or combustible liquids shall be located, constructed and used in accordance with the building code in effect at the time of first occupancy and NFPA 30 listed in Appendix 3–A and any other applicable law or ordinance of the jurisdiction.

(d) Aboveground tank storage requirements are as follows:

1. Aboveground storage tanks for the storage of combustible or flammable liquid shall be maintained in a safe operating condition as required by this Code.

2. Existing aboveground tank installations that have been previously approved may be continued, provided the installation does not constitute a hazard. The fire official shall periodically inspect the installation for safety, and if he or she determines the installation or operation is no longer conducted or maintained in a safe manner, he or she shall have authority to require unsafe tanks to be removed from service.

(e) Underground tank storage requirements are as follows:

1. Periodic tests of underground storage systems may be required by the fire official to determine that leakage has not occurred.

(f) The following apply to containers and portable tanks:

1. This subsection shall apply to the storage and dispensing of flammable or combustible liquids into or from containers or portable tanks not exceeding 660 gallons individual capacity.

2. Exceptions: The requirements of this subsection shall not apply to the following:

i. Flammable liquids in the fuel tanks of a motor vehicle, aircraft, motorboat, mobile power plant, or mobile heating plant; and

ii. Flammable or combustible paints, oils, varnishes, or similar mixtures when such liquids are stored from painting or maintenance or similar purposes, upon the premises and which are not stored for a period exceeding 30 days.

3. Containers and portable tanks for flammable and combustible liquids shall conform to (b)2 and (b)2i above and Table 3.28(f) below.

i. Exceptions: The requirements of (f)3 above shall not apply to the following: medicines, beverages, foodstuffs, cosmetics and other common consumer items, when packaged according to commonly accepted practices. Class 1A and 1B flammable liquids may be stored in glass containers of not more than one gallon capacity if the required liquid purity (such as ACS analytical reagent grade or higher) would be affected by storage in metal containers or if the liquid would cause excessive corrosion of the metal container.

4. Inside storage and handling rooms shall be enclosed with assemblies having a fire resistance rating of not less than two hours when quantities of more than 100 gallons are involved or such storage shall be in a separate exterior storage building constructed in accordance with the building code in effect at the time of first occupancy.

5. The inside storage of flammable or combustible liquids in approved and properly sized containers or tanks shall comply with Table 3.28(f)4 below.

i. Flammable or combustible liquids, including stock for sale, shall not be stored so as to limit use of the means of egress of the building.

6. Flammable or combustible liquid containers conforming to (b)2 and (b)2i and Table 3.28(f) below shall be stored as specified in NFPA 30 listed in Appendix 3–A.

Container Type	Flammable Liquids Class 1A	Class 1B	Combustible Liquids Class 1C	Class II	Class III
Metal (other than DOT drums) or approved plastic Safety cans	1 gal.	5 gal.	5 gal.	5 gal.	5 gal.
	2 gal.	5 gal.	5 gal.	5 gal.	5 gal.
Metal drums (DOT spec.)	60 gal.	60 gal.	60 gal.	60 gal.	60 gal.
Approved portable tanks	660 gal.	660 gal.	660 gal.	660 gal.	660 gal.

TABLE 3.28(f)
MAXIMUM ALLOWABLE SIZE OF CONTAINERS AND PORTABLE TANKS

Container Type	Flammable Liquids Class 1A	Class 1B	Combustible Liquids Class 1C	Class II	Class III
Glass	1 pt.	1 qt.	1 gal.	1 gal.	1 gal.

Table 3.28(f)4
MAXIMUM INSIDE PILE STORAGE

Class Liquid	Storage Level (Note b)	Protected* Maximum Gals. (Note a)		Storage per Pile Height (Note c)	Unprotected Maximum Gals. (Note a)		Storage per Pile Height (Note c)
1A	Ground and upper floors	2,750 (50)		3 ft. (1)	660 (12)		3 ft. (1)
	Basement		Not permitted			Not permitted	
1B	Ground and upper floors	5,500 (100)		6 ft. (2)	1,375 (25)		3 ft. (1)
	Basement		Not permitted			Not permitted	
1C	Ground and upper floors	16,500 (300)		6 ft. (2)	4,125 (75)		3 ft. (1)
	Basement		Not permitted			Not permitted	
II	Ground and upper floors	16,500 (300)		9 ft. (3)	4,125 (75)		9 ft. (3)
	Basement	5,500 (100)		9 ft. (3)		Not permitted	
III	Ground and upper floors	55,000 (1,000)		15 ft. (5)	13,750 (250)		12 ft. (4)
	Basement	8,250 (150)		9 ft. (3)		Not permitted	

* A water sprinkler or equivalent fire suppression system installed in accordance with the Uniform Construction Code and approved by the fire official.
Note a: When two or more classes of materials are stored in a single pile, the maximum gallonage permitted in that pile shall be the smallest of separate maximum gallonage. Number below gallon quantity is the number of 55 gallon capacity containers.
Note b: Aisles shall be provided so that no portable tank is more than 12 feet from an aisle. Main aisles shall be at least eight feet wide and side aisles at least four feet wide.
Note c: Each pile shall be separated from each other pile by at least four feet. When stored on suitably protected racks or when the storage is suitably protected, portable tanks may be piled up to the height limits indicated in (g)6iv below, where approved by the fire official.

(g) Quantity requirements are as follows:

1. The storage of flammable or combustible liquids in containers or portable tanks shall comply with the following applicable paragraphs, except that the fire official may impose a quantity limitation or require greater protection where unusual hazard to life or property is involved. Increase of these amounts may be authorized where the type of construction, fire protection provided, or other factors substantially reduce the hazard.

2. Storage in excess of five gallons of flammable liquids or 60 gallons of combustible liquids shall be prohibited in buildings of Use Group R–3 and accompanying attached or detached garages, with the exception of owner occupied one-and-two-family dwellings.

3. Storage in excess of 10 gallons of flammable liquids or 60 gallons of combustible liquids shall be prohibited in buildings of Use Groups A, R–1 and R–2.

4. In buildings of Use Groups B, E and I, storage shall be limited to that required for operation of office equipment, maintenance, demonstration, treatment and laboratory work. All liquids in laboratories and at other points of use shall meet the following storage provisions:

i. A container for flammable liquids shall not exceed a capacity of one gallon, except that safety cans can be of two gallons capacity.

ii. Not more than 10 gallons of flammable liquids shall be stored outside of an approved storage cabinet or interior storage room, except in safety cans.

iii. Not more than 25 gallons of flammable liquids shall be stored in safety cans outside of an interior storage room or storage cabinet.

iv. Not more than 60 gallons of combustible liquids shall be stored outside of an interior storage room or storage cabinet.

v. Quantities of flammable and combustible liquids in excess of those set forth in this paragraph shall be stored in an approved interior storage room or storage cabinet.

5. Storage in buildings of Use Group M shall comply with the following provisions:

i. In rooms or areas accessible to the public, storage of Class I, Class II and Class IIIA liquids shall be limited to quantities needed for display and normal merchandising purposes but shall not exceed two gallons per square foot of gross floor area. The gross floor area used for computing the maximum quantity permitted shall be considered as that portion of the store actually being used for merchandising flammable and combustible liquids.

ii. Where the aggregate quantity of additional stock exceeds 60 gallons of Class IA, 120 gallons of Class IB, 180 gallons of Class IC, 240 gallons of Class II, or 660 gallons of Class IIIA liquids or any combination of flammable liquids exceeding 240 gallons, the excess shall be stored in a room or portion of the building that complies with the construction provisions for an inside storage room. For water-miscible liquids, these quantities may be doubled.

iii. Containers in a display area shall not be stacked more than three feet or two containers high, whichever is the greater, unless on fixed metal shelving or otherwise being satisfactorily secured.

iv. Shelving shall be made of stable metal construction, of sufficient depth and arrangement such that containers displayed thereon shall not be easily displaced.

v. Leaking containers shall be removed to an approved interior storage room or to a location outside the building safe from ignition sources, and the contents transferred to an undamaged container.

6. Storage in general purpose or industrial plant warehouses shall be in accordance with Tables 3.28(f) and 3.28(f)4 above and in buildings or in portions of such buildings separated by fire walls. Material creating fire exposure hazard to the flammable or combustible liquids may not be stored in the same area.

7. Flammable and combustible liquid warehouses or storage buildings shall comply with the following requirements:

i. The total quantity of liquids within a building shall not be restricted, but the arrangement of storage shall comply with Table 3.28(f)4 above provided said storage is in approved containers of sizes complying with Table 3.28(f) above.

ii. Containers in piles shall be separated by pallets or dunnage where necessary to provide stability and to prevent excessive stress on container walls.

iii. Portable tanks stored over one tier high shall be designed to nest securely, without dunnage, and adequate materials handling equipment shall be available to handle tanks safely at the upper tier level.

iv. No pile shall be closer than three feet to the nearest beam, chord, girder or other obstruction and shall be three feet below sprinkler deflectors or discharge orifices of water spray, or other overhead fire protection systems.

v. Aisles at least three feet wide shall be provided where necessary for access to doors, windows or standpipe connections.

(h) Fire control requirements are as follows:

1. Suitable fire extinguishing equipment, such as small hose or portable fire extinguishers, shall be available at locations where flammable or combustible liquids are stored.

i. At least one portable fire extinguisher having a rating of not less than 20–B:C shall be located outside of, but not more than 10 feet from, the door opening into any interior storage room.

ii. At least one portable fire extinguisher having a rating of not less than 20–B:C shall be located not less than 10 feet, nor more than 25 feet, from any flammable liquid storage area located outside of an interior storage room but inside the building.

2. Open flames and smoking shall not be permitted in flammable or combustible liquid storage areas.

3. Materials which will react with water shall not be stored in the same room with flammable or combustible liquids.

4. Containers and portable tanks used for flammable liquids shall be electrically bonded or grounded during transfer of liquids in accordance with NFPA 77 listed in Appendix 3–A, incorporated herein by reference.

(i) The following apply to tank vehicles:

1. The provisions of this subsection apply to tank vehicles which are to be used for the transportation of asphalt or flammable or combustible liquids. The intent of the provisions is to provide minimum requirements for the design and construction of cargo tanks and their appurtenances and to set forth certain matters pertaining to tank vehicles.

2. All tank vehicles, and appurtenances shall be designed and constructed in compliance with NFPA 385 listed in Appendix 3–A, incorporated herein by reference.

3. Tank vehicles shall be used and operated as specified in NFPA 385 listed in Appendix 3–A and as follows:

i. Tank vehicles shall not be parked or left unattended on any street, highway, avenue or alley, provided that this shall not prevent a driver from necessary absence from the vehicle in connection with the delivery of the load, except that during actual discharge of the liquid some responsible person shall be present at the vehicle, nor shall it prevent stops for meals during the day or night if the street is well lighted at point of parking. Tank vehicles shall not be parked out of doors at any one point for longer than one hour, except at flammable liquid bulk terminals, bulk plants and other locations approved by the fire official.

ii. Tank vehicles shall not be parked or garaged in any building or structure other than those specifically approved for such use by the fire official.

iii. Each tank vehicle shall be provided with at least one portable fire extinguisher having a rating of not less than 2–A:20–B:C.

4. The driver, operator or attendant of any tank vehicle shall not leave the vehicle while it is being filled or discharged. Delivery hose, when attached to a tank vehicle, shall be considered to be a part of the tank vehicle. When making or breaking hose connections, the motors of tank trucks or tractors shall be shut down. If loading or unloading is done without the use of a power pump, the tank truck or tractor motor shall be shut down throughout such operations.

i. Delivery of flammable liquids to underground tanks of more than 1,000 gallons capacity shall be made by means of vapor-tight connections between the hose and the fill pipe. In all cases where underground tanks are equipped with any type of vapor recovery system, all connections required to be made for the safe and proper functioning of the particular vapor recovery process shall be made. Such connections shall be made liquid and vapor-tight and shall remain connected throughout the unloading process. Vapors shall not be discharged into the atmosphere at grade level during delivery.

ii. Upon arrival at a point of delivery and prior to discharging any flammable or combustible liquids into underground tanks, the driver, operator or attendant of the tank vehicle shall ensure that all liquid delivery and vapor recovery (if required) hoses will be protected from physical damage by motor vehicles. Such protection shall be provided by positioning the tank vehicle so as to prevent motor vehicles from passing through the area(s) occupied by hoses or shall consist of portable traffic warning devices, such as traffic cones.

Administrative Correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).
Administrative correction.
See: 27 N.J.R. 2886(b).

5:70–3.29 Hazardous materials and chemicals

(a) The provisions of this section shall apply to hazardous materials which are not otherwise covered in this Code which are highly flammable, or which may react to cause fires or explosions, or which by their presence create or augment a fire or explosion hazard, or which because of their toxicity, flammability, or liability to explosion render fire fighting abnormally dangerous or difficult; also to flammable liquids which are chemically unstable and which may spontaneously form explosive compounds, or undergo spontaneous reactions of explosive violence or with sufficient evolution of heat to be a fire hazard. Hazardous chemicals shall include such materials as flammable solids, corrosive liquids, radioactive materials, oxidizing materials, potentially explosive chemicals, highly toxic materials, and poisonous gases, as defined in N.J.A.C. 5:70–3.2.

(b) For the purpose of this section and as used in this Code, the following words and terms shall have the meaning shown.

"Sealed source" means a quantity of radiation so enclosed as to prevent the escape of any radioactive material but at the same time permitting radiation to come out for use.

"Storage, isolated" means storage away from incompatible materials in a different storage room or in a separate and detached building located at a safe distance from hazardous occupancies and important exposures.

"Storage, separated" means storage in the same fire area but physically separated by as much space as practicable, using sills or curbs as safeguards, or by intervening storage of nonhazardous, compatible commodities.

(c) General requirements for hazardous materials and chemicals are as follows:

1. The manufacture, storage, handling and use of hazardous materials and chemicals shall be safeguarded with such protective facilities as public safety requires.

2. The fire official may require the separation or isolation of any chemical that in combination with other substances may bring about a fire or explosion or may liberate a flammable or poisonous gas. The fire official may require separation from other storage facilities, dwellings, places of assembly, educational uses, railroads and public highways when the quantity stored constitutes a material hazard. Limitations on storable quantities shall be considered with regard to proximity of these exposures and congested commercial and industrial districts.

3. Defective containers which permit leakage or spillage shall be disposed of or repaired in accordance with recognized safe practices. Spilled materials shall not be allowed to accumulate on floors or shelves.

4. Where kept for retail sale in containers or packages usual to the retail trade, storage shall be neat and orderly and shelves shall be of substantial construction.

5. Where specific requirements are not otherwise established, storage, handling and use of hazardous materials and chemicals shall be in accordance with nationally recognized good practice.

6. All containers of materials and chemicals shall be individually labeled or shall have a sign or placard posted on the container.

7. All labels, signs and placards shall be prominently affixed to the container and shall provide the chemical name and hazard warning information related to the substance being contained. Fixed containers shall also be provided with placards in accordance with NFPA 704 listed in Appendix 3–A, incorporated herein by reference.

8. The owner shall have available for review and inspection a material safety data sheet for each hazardous material or substance on the premises. The material safety data sheet shall include the following information.

i. The manufacturer's name, address and emergency telephone number;

ii. The chemical name and synonyms; trade names and synonyms; and hazardous ingredients;

iii. The physical data and reactivity data;

iv. Fire and explosion data;

v. Health hazard data; and

vi. Special protection information and special precautions.

(d) The layout, arrangement and construction of buildings and structures in which hazardous chemicals are handled shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that Code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

(e) Packaged oxidizing materials shall be stored in dry locations and separated from stored organic and other combustible materials. Bulk oxidizing materials shall not be stored on or against wooden surfaces.

(f) The following apply to radioactive materials:

1. Durable, clearly visible signs warning of radiation dangers shall be placed at all entrances to areas or rooms where radioactive materials are used or stored. In addition, on each container in which radioactive materials are used, stored or transported shall be the three-bladed radiation symbol in magenta or purple on a yellow background in accordance with nationally recognized good practice. The use, storage and handling of radioactive materials shall comply with NFPA 801 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

i. Exception: Signs are not required for storage of manufactured articles other than liquids, such as instruments or clock dials or electronic tubes or apparatus of which radioactive materials are a component part, and luminous compounds, when securely packed in strong containers, provided the gamma radiation at any surface of the package is less than 10 milliroentgens in 24 hours.

2. When not in use, radioactive materials shall be kept in adequately shielded fire resistant containers of such design that the gamma radiation will not exceed 200 milliroentgens per hour or equivalent at any point of readily accessible surface.

(g) The following apply to unstable (reactive) chemicals:

1. Unstable chemicals shall be stored away from all incompatible chemicals and contaminating and sensitizing materials. Unstable reactive chemicals shall not be stored in the same building with or in close proximity to explosives and blasting agents, except in accordance with N.J.A.C. 5:70–3.26(e).

2. Such chemicals shall be kept away from all heat-producing appliances and electrical devices and shall be protected from external heat, fire and explosion. All electric bulbs shall be equipped with guards to prevent breakage. Open lights or flames and smoking shall be prohibited in or near storage areas. Internal combustion motor vehicles or lift trucks shall not be parked or stored in the room or compartment where such chemicals are located.

3. Good housekeeping shall be maintained. Uncontaminated contents of broken or cracked bags, packages or other containers shall be transferred to new and clean containers before storing. Other spilled materials and discarded containers shall be promptly gathered up and destroyed in an approved manner.

4. A detached, well isolated, ventilated and unheated storage building constructed with walls having a fire resistance rating of not less than two hours, a noncombustible floor and a lightweight insulated roof shall be provided for the storage of 50 pounds or more of organic peroxides. If not adequately protected by a fast-acting deluge type automatic sprinkler system, the storage building shall be located the minimum distances from flammable liquid storage combustible materials in the open and from any other building or highway, as indicated in the following Table 3.29(g)4 below.

i. Stock supplies stored inside production buildings shall be limited to 50 pounds at any one time.

TABLE 3.29(g)4
ORGANIC PEROXIDE STORAGE

Weight of organic peroxide (pounds)	Distance (feet)
50 to 100	75

Weight of organic peroxide (pounds)	Distance (feet)
100 to 500	100
500 to 1,000	125
1,000 to 3,000	200
3,000 to 5,000	300

ii. The organic peroxides shall be stored in the original shipping containers (U.S. Department of Transportation containers). Care shall be taken to avoid rough handling or contamination of these chemicals. Readily legible warning signs and placards shall be prominently placed in the storage and processing areas.

5. A suitably isolated outdoor storage area shall be provided for nitromethane. Hazardous processing shall not be permitted in the vicinity of this storage area. Nitromethane shall be stored in the drums in which it is received or in an underground tank with suitable corrosion protection and a minimum of two feet of earth over the tank or in barricaded tanks above ground. If the drum storage is not adequately protected by a fast-acting deluge type automatic sprinkler system, the storage of 2,000 pounds or more shall be located the minimum distances from inhabited buildings as shown in Table 3.29(g)5 below. Care shall be taken to avoid rough handling or contamination of this chemical. Readily legible warning signs and placards shall be prominently placed in the storage and processing areas.

TABLE 3.29(g)5

NITROMETHANE STORAGE

Weight of nitromethane (pounds over)		(pounds not over)	Approximate number of drums	Distance (feet)
Beginning	at	2,000	4	100
2,000	to	10,000	20	200
10,000	to	20,000	40	300
20,000	to	40,000	80	400
40,000	to	80,000	160	500

6. All flooring in storage and handling areas shall be of noncombustible material and shall be without drains, traps, pits or pockets into which any molten ammonium nitrate could flow and be confined in case of fire.

i. Each storage pile of bags or other authorized packages and containers of such materials shall not exceed 20 feet in width and 50 feet in length. The length is not limited if the building is of fire resistive or noncombustible construction or sprinkler protected. For pile heights exceeding 15 feet, a hydraulically engineered sprinkler system shall be required. Such pile units shall be separated by a clear space of not less than three feet in width from the base to the top of the piles, serving as cross-aisles. At least one service or main aisle in the storage area shall be not less than four feet in width. A clearance of not less than 30 inches shall be maintained from building walls and partitions and of not less than three feet from ceilings or roof structural members with a minimum of 18 inches from sprinklers.

ii. Ammonium nitrate storage areas shall be separated by a space of 30 feet with sills or curbs, or by approved type walls of not less than one hour fire resistance rating, from stocks of organic chemicals, corrosive liquids, flammable compressed gases, flammable and combustible materials, such as coal, sawdust, charcoal, or flour where storage of such materials is permitted with ammonium nitrate.

iii. Quantities of ammonium nitrate or ammonium nitrate fertilizer, not having organic coating, in the form of crystals, flakes, grains or prills including fertilizer grade, dynamite grade, nitrous oxide grade and technical grade ammonium nitrate and ammonium nitrate phosphate (containing 60 percent or more ammonium nitrate by weight) of more than 50 tons total weight shall be stored in a well ventilated building of fire resistive or noncombustible construction, or in buildings of other types of construction equipped with an approved automatic sprinkler system. In populated areas, quantities of 2,500 tons or more shall be stored in well ventilated buildings of fire resistive or noncombustible construction equipped with an approved automatic sprinkler system, and combustible materials or ammonium nitrate sensitizing contaminants shall not be stored in this building.

iv. Storage of ammonium nitrate, coated or mixed with organic anti-caking materials, except compounded blasting agents, shall not be permitted in populated and congested areas. Outside such areas, quantities of 500 tons or less may be stored in well ventilated buildings of fire resistive or noncombustible construction equipped with an approved automatic sprinkler system.

(h) The following apply to highly toxic materials:

1. Highly toxic materials shall be separated from other chemicals and combustible and flammable substances by storage in a room or compartment separated from other areas by walls and floor and ceiling assemblies having a fire resistance rating of not less than one hour. The storage room shall be provided with adequate drainage facilities and natural or mechanical ventilation to the outside atmosphere.

2. Legible warning signs and placards stating the nature and location of the highly toxic materials shall be posted at all entrances to areas where such materials are stored or used.

(i) The following apply to poisonous gases:

1. Storage of poisonous gases shall be in rooms of at least one hour fire resistance rated construction and having natural or mechanical ventilation adequate to remove leaking gas. Such ventilation shall not discharge to a point where the gases may endanger any person.

2. Legible warning signs stating the nature of hazard shall be placed at all entrances to locations where poisonous gases are stored or used.

3. Distributors of poisonous gases as defined in this chapter shall provide and maintain on their premises at least one complete commercial-type repair kit for each size and type poisonous gas cylinder stored or kept on said premises. Such repair kit(s) shall be so located that they will be accessible at all times for immediate use. Said repair kits shall be kept in durable containers and plainly marked as to the size of cylinder the repair kit is designed to service.

(j) Satisfactory provisions shall be made for containing and neutralizing leakage of corrosive liquids which may occur during storage or handling.

(k) The following apply to hazardous materials tank vehicles:

1. The provisions of this subsection apply to vehicles for transportation of hazardous materials as defined in (a) above.

2. Vehicles shall be operated as follows:

i. Vehicles shall not be parked or left unattended on any street, highway, avenue or alley, provided that this shall not prevent a driver from the necessary absence from the vehicle in connection with the delivery of the load, except that during actual discharge of the load some responsible person shall be present at the vehicle, nor shall it prevent stops for meals during the day or night if the street is well lighted at point of parking. Vehicles shall not be parked out of doors at any one point for longer than one hour except at locations approved by the fire official.

ii. Vehicles shall not be parked or garaged in any building or structure other than those specifically approved for such use by the fire official.

3. The driver, operator or attendant of any vehicle shall not leave the vehicle while it is being filled or discharged. Delivery hose, when attached to a tank vehicle, shall be considered to be a part of the tank vehicle. When making or breaking hose connections, the motors of tank trucks or tractors shall be shut down. If loading or unloading is done without the use of power pump, the tank truck or tractor motor shall be shut down throughout such operations.

Administrative Correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).

5:70–3.30 Liquefied petroleum gases

(a) The equipment, processes and operations for storage and handling of liquefied petroleum gas shall comply with the applicable requirements of this Code and the provisions of this section and shall be installed and maintained in accordance with NFPA 58 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

(b) Installers shall maintain a record of all installations for which a permit is not required (but not including installation of gas burning appliances and replacing of portable cylinders) and have it available for inspection by the fire official.

(c) The following apply to tank container systems:

1. All aboveground tank container systems other than cylinder or bottled gas shall be located with respect to the nearest important building, group of buildings, or line of adjoining property which may be built upon as specified in Table 3.30(d) below.

2. Underground tank container systems shall be buried at least six inches below grade. All containers shall be protected against corrosion for the soil condition at the container site by a method in accordance with good engineering practices. The fire separation from the nearest important building, group of buildings, or line of adjoining property that may be built upon shall comply with Table 3.30(d) below.

(d) Container storage requirements are as follows:

1. Where storage containers having an aggregate water capacity more than 4,000 gallons are located in heavily populated or congested areas, the siting provisions of Table 3.30(d) below may be modified as indicated by the fire safety analysis described in Section 3–10.2 of NFPA 58 listed in Appendix 3–A.

2. Multiple container installations with a total storage water capacity of more than 180,000 gallons, or approximately 150,000 gallons LP-Gas capacity, shall be subdivided into groups containing not more than 180,000 gallons in each group. Such groups shall be separated by a distance of not less than 50 feet. Where one of these forms of protection in (d)2i through v below is provided, the separation shall not be less than 25 feet between such container groups.

i. Burial or mounding in an approved manner;

ii. Protection with approved insulation on such areas that may be subjected to impingement of ignited gas from pipelines or other leakage;

iii. Protection by fire walls of approved construction;

iv. Protection by an approved system for application of water; or

v. Protection by other approved means.

TABLE 3.30(d)
SEPARATION FOR TANK CONTAINER SYSTEMS

	Minimum distances between containers and buildings or lot lines		
Water capacity per container (gallons)	Mounded or underground [d]	Aboveground	Between aboveground containers
Less than 125 [a]	10 feet	None [b]	None

Water capacity per container (gallons)	Minimum distances between containers and buildings or lot lines: Mounded or underground [d]	Aboveground	Between aboveground containers
125 to 250	10 feet	10 feet	None
251 to 500	10 feet	10 feet	3 feet
501 to 2,000	25 feet [c]	25 feet [c]	3 feet
2,001 to 30,000	50 feet	50 feet	5 feet
30,001 to 70,000	50 feet	75 feet	
70,001 to 90,000	50 feet	100 feet	(¼ of sum of diameters of adjacent containers)
90,001 to 120,000	50 feet	125 feet	

Note a: At a consumer site, if the aggregate water capacity of a multi-container installation comprised of individual containers having a water capacity of less than 125 gallons is 501 gallons or more, the minimum distance shall comply with the appropriate portion of this table, applying the aggregate capacity rather than the capacity per container. If more than one such installation is made, each installation shall be separated from any other installation by at least 25 feet. Do not apply the minimum distances between aboveground containers to such installations.

Note b: The following shall apply to aboveground containers installed alongside of buildings:

1. DOT specification containers shall be located and installed so that the discharge from the container safety relief device is at least three feet horizontally away from any building opening below the level of such discharge, and shall not be beneath any building unless this space is well ventilated to the outside and is not enclosed for more than 50 percent of its perimeter. The discharge from container safety relief devices shall be located not less than five feet in any direction away from any exterior source of ignition, openings into direct-vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
2. ASME containers of less than 125 gallons water capacity shall be located and installed so that the discharge from safety relief devices shall not terminate in or beneath any building and shall be located at least five feet horizontally away from any building opening below the level of such discharge, and not less than five feet in any direction away from any exterior source of ignition, openings into direct vent (sealed combustion system) appliances, or mechanical ventilation air intakes.
3. The filling connection and the vent from liquid level gauges on either DOT or ASME containers filled at the point of installation shall not be less than 10 feet in any direction away from any exterior source of ignition, openings into direct-vent (sealed combustion system) appliances, or mechanical ventilation air intakes.

Note c: This distance may be reduced to not less than 10 feet for a single container of 1,200 gallons water capacity or less provided such container is at least 25 feet from any other LP-Gas container of more than 125 gallons water capacity.

Note d: Minimum distances for underground containers shall be measured from the relief valve and filling or liquid level gauge vent connection at the container, except that no part of an underground container shall be less than 10 feet from a building or line of adjoining property which may be built upon.

(e) Requirements for use inside buildings are as follows:

1. Containers and first stage regulating equipment shall be located outside of buildings other than buildings especially provided for this purpose, except containers and regulating equipment may be used indoors under the following conditions:

i. If temporarily used for demonstration purposes and the container has a maximum water capacity of 12 pounds (nominal five pounds LP-Gas capacity);

ii. If used with a completely self-contained gas hand torch or similar equipment, and the container has a maximum water capacity of 2½ pounds (nominal one pound LP-Gas capacity);

iii. In industrial and temporary applications when in conformance with N.J.A.C. 5:70–3.20(i)2 and Section 3–4 of NFPA 58 listed in Appendix 3–A;

iv. In use as a motor fuel ((e)2 below); or

v. In storage awaiting use or resale in accordance with Chapter 5 of NFPA 58 listed in Appendix 3–A.

2. The quantity of LP-Gas stored inside buildings for use as a motor fuel shall not exceed 300 pounds.

3. Gas for fuel purposes in either the liquid or vapor phase shall not be piped into any building at pressure in excess of 20 pounds per square inch gauge (psig) except as follows:

i. Buildings used exclusively to house equipment for vaporization, pressure reduction, gas mixing, gas manufacturing or distribution;

ii. Buildings, or portions of buildings, separated from other portions by walls, partitions and floor and ceiling assemblies of noncombustible material having a fire resistance rating of not less than two hours, used exclusively to house internal combustion engines or industrial processes or used exclusively for research and experimental laboratories; or

iii. Buildings, structures or equipment under construction or repair.

(f) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which liquefied petroleum gases are used or stored shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification, and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. All liquefied petroleum gas equipment, except such equipment installed at utility gas plants, shall be installed as specified in NFPA 58 listed in Appendix 3–A except as otherwise provided in this section. Liquefied petroleum gas equipment at utility gas plants shall be installed as specified in NFPA 59 listed in Appendix 3–A, incorporated herein by reference.

3. Every tank vehicle, or other vehicle used for the transportation of liquefied petroleum gas in excess of 1,000 pounds aggregate gross weight (product and container weight), shall be placarded according to DOT 49 CFR listed in Appendix 3–A.

i. The parking and garaging of tank vehicles used for the transportation of liquefied petroleum gases shall be in accordance with Section 6–6 of NFPA 58 listed in Appendix 3–A.

4. Liquefied petroleum gas installations at marine and pipeline terminals, natural gasoline plants, refineries and tank farms shall be designed and installed so as to be reasonably safe to persons and property.

(g) The following apply to abandonment of equipment:

1. The fire official shall be notified immediately when the use of any liquefied petroleum gas equipment is to be abandoned. Such equipment shall be abandoned in accordance with (g)2 below within 30 days after such notification.

2. Approved procedures for abandoned liquefied petroleum gas containers are as follows:

i. Tanks "temporarily out of service" shall have the fill line, gauge opening, any fuel line entering the building and the pump connection secured against tampering. Relief and regulating devices shall be maintained in accordance with the requirements of this section.

ii. Any tank not used for a period of 10 months shall be properly safeguarded or removed in a manner approved by the fire official.

(1) Exception: Emergency standby LP-Gas fuel systems which are not utilized within an 18 month period shall be purged of all flammable gases with an inert gas or removed. When LP-Gas containers are purged, the container shall be marked on two sides with 12 inch high, red or contrasting letters stating, "Purged—Inert Gas". The fire official shall be notified in writing as to which containers have been rendered out of service.

iii. Any tank which has been abandoned for a period of one year shall be removed from the property in a manner approved by the fire official and the site restored in an approved manner.

iv. Tanks which are to be reinstalled for liquefied petroleum gas shall comply with all of the provisions of this section.

v. Tanks which are to be returned to service shall be tested in a manner approved by the fire official.

(h) Container and site requirements are as follows:

1. Containers of 125 gallons or more water capacity shall be legibly marked with a warning followed by the name of the gas contained. The warning label shall read "Flammable Gas" followed by the name of the gas, such as "Propane" or "Butane".

2. Storage areas having containers exceeding 125 gallons aggregate water capacity shall be posted with adequate "NO SMOKING" and "FLAMMABLE GAS" signs legibly marked. The warning "FLAMMABLE GAS" shall be followed by the name of the gas stored on the site, such as "PROPANE" or "BUTANE".

3. All LP-Gas installations exceeding 250 gallons individual or aggregate water capacity shall be provided with a marker plate or sign indicating who should be called in the event of an emergency involving the LP-Gas installation. The marker or sign shall include the following:

i. The name of the gas supplier, plant installer, owner, or operator who will respond to the emergency; and

ii. The telephone number of that person.

4. The LP-Gas supplier, plant installer, owner or operator indicated on the marker plate or sign required in (h)3 above shall respond when notified to all LP-Gas emergencies occurring at the installation and shall maintain a 24–hour phone service.

5. Whenever there is a fire or explosion or accident involving serious injury or loss of life as a result of an incident involving an LP-Gas installation, the responsible party as required in (h)4 above shall promptly notify the fire official of its occurrence.

Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
At (h), responsibility for notification of accidents specified.

5:70–3.31 Magnesium

(a) The equipment, processes and operation for the storage, handling or processing of magnesium shall comply with the applicable requirements of this Code and the provisions of this section. Magnesium, as herein referred to, shall include the pure metal and alloys of which the major part is magnesium.

(b) Storage requirements are as follows:

1. Outside storage of magnesium pigs, ingots and billets shall be in piles not exceeding 500 tons each, separated by aisles not less in width than one-half the height of the pile, and separated from combustible materials or buildings on the same or adjoining property by a distance of not less than the height of the nearest pile.

2. Storage of pigs, ingots and billets in buildings shall be on floors of noncombustible construction, in piles not larger than 250 tons each, separated by aisles not less in width than one-half the height of the pile.

3. The size of storage piles of magnesium articles in foundries and processing plants shall not exceed 1,250 cubic feet and shall be separated by aisles not less in width than one-half the height of the pile.

4. Magnesium storage in a quantity greater than 50 cubic feet shall be separated from storage of other materials that are either combustible or in combustible containers, by aisles equal in width to not less than the height of the piles of magnesium.

5. Magnesium storage in a quantity greater than 1,000 cubic feet shall be separated into piles each not larger than 1,000 cubic feet with aisles between equal in width to not less than the height of the piles.

6. Where storage in a quantity greater than 1,000 cubic feet is in a building of combustible construction, or the magnesium is packed in combustible crates or cartons, or there is other combustible storage within 30 feet of the magnesium, the storage area shall be protected by an automatic sprinkler system.

(c) Handling requirements are as follows:

1. At each grinding, buffing or wire-brushing operation on magnesium, not including rough finishing of castings, dust shall be collected by means of suitable hoods or enclosures connected to a liquid precipitation type of separator, such that the dust will be converted to sludge without contact in a dry state with any high speed moving parts.

i. Connecting ducts or suction tubes shall be completely grounded and as short as possible, without unnecessary bends. Ducts shall be carefully fabricated and assembled, with a smooth interior and with internal lap joints pointing in the direction of air flow, and without unused capped side outlets, pockets or other dead-end spaces which might allow an accumulation of dust.

ii. Each machine shall be equipped with an individual dust separating unit, except that with multi-unit machines not more than two dust-producing units may be served by one separator. Not more than four portable dust-producing units in a single enclosure or stand shall be served by one separator unit.

iii. Power supply to dust-producing machines shall be interlocked with the motor driving the exhaust blower and the liquid level controller of the wet collector in such a way that improper functioning of the dust collecting system will shut down the machine it serves. A time delay switch or equivalent device shall be provided in the dust-producing machine to prevent starting of its motor drive until the wet collector is in complete operation and several changes of air have swept out any residual hydrogen.

iv. All electrical wiring, fixtures and equipment in the immediate vicinity of and attached to dust-producing machines, including those used in connection with separator equipment, shall be of types approved for use in Class II, Group E, hazardous locations as specified in NFPA 70 listed in Appendix 3–A, incorporated herein by reference, and shall be installed in accordance with nationally recognized safe practice.

v. All equipment shall be securely grounded by permanent ground wires.

2. Approved means shall be provided for control of magnesium fires in heat treating ovens.

3. Floors under and around melting pots shall be of noncombustible construction.

4. Chips, turnings and other fine magnesium scrap shall be collected from the pans or spaces under the machines and from other places where they collect at least once each working day and placed in a covered, vented steel container and removed to a safe location.

i. Magnesium fines shall be kept separate from other combustible materials. Storage in a quantity greater than 50 cubic feet of fine magnesium scrap shall be separated from other uses in accordance with the Uniform Construction Code or by an open space of at least 50 feet. Storage in a quantity greater than 1,000 cubic feet shall be separated from all buildings other than those used for magnesium scrap recovery operations by a distance of not less than 100 feet.

(d) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures where magnesium is stored, processed or handled shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this code and NFPA 651 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations. Smoking shall be in accordance with N.J.A.C. 5:70–3.3(k).

2. A supply of approved extinguishing powder in a substantial container with a hand scoop or shovel for applying powder on magnesium fires or an approved extinguisher unit designed for use with such powder shall be kept within easy reach of every operator performing a machining, grinding or other processing operation on magnesium.

5:70–3.32 Matches

(a) The equipment, processes, and operation for the manufacturing, storage or handling of matches in quantities as indicated herein shall comply with the applicable requirements of this Code and the provisions of this section.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures for use in connection with the manu-

facturing or storing of matches shall comply with the applicable requirements of the building code in effect at the time of first occupancy for the appropriate use group classification and shall be provided with fire protection and fire extinguishing equipment as required by that code. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code.

2. At wholesale establishments and wherever more than 25 cases of matches are stored, shipping containers containing matches shall be arranged in piles not exceeding 18 feet in height nor 25,000 cubic feet in volume. Such pile units shall be separated from each other and from other combustible material by a clear space of not less than four feet. Matches shall not be stored within 10 feet of any exit, open stairway, elevator shaft opening or other vertical opening.

3. Where matches are sold at retail, original sealed containers may be stored on shelves not closer than 10 feet to heaters, furnaces, compressors or other mechanical equipment.

4. Where shipping containers containing matches are opened, the contents of the opened containers shall be removed and stored in metal or metal-lined bins equipped with self-closing covers.

5:70–3.33 Organic coatings

(a) This section shall apply to processes manufacturing protective and decorative finishes or coatings (paints) for industrial, automotive, marine, transportation, institutional, household or other purposes, and the handling of flammable and combustible liquids, certain combustible solids and potential dust explosion conditions.

i. Exception: This section shall not apply to processes manufacturing nonflammable or water thinned coatings or operations applying coating materials.

(b) Fire safety requirements are as follows:

1. The layout, arrangement and construction of buildings and structures in which organic coatings are manufactured or stored shall comply with the applicable requirements of the building Code in effect at the time of first occupancy for the appropriate use group classification and shall be provided with fire protection and fire extinguishing equipment as required by that Code and this section. Buildings and structures and their service equipment shall be maintained in safe condition as required by this Code and NFPA 35 listed in Appendix 3–A, incorporated herein by reference, where provisions of this section do not specifically cover conditions and operations.

2. Portable fire extinguishers suitable for flammable liquid fires shall be provided as required by the fire official.

3. Open flames and direct-fired heating devices shall be prohibited in areas where flammable vapor-air mixtures may exist.

4. Smoking shall be prohibited except in designated areas approved by the fire official. "No Smoking" signs with lettering of approved size shall be conspicuously posted in such prohibited areas and shall read "By Order of the Fire Official".

5. Adequate aisles shall be maintained for the unobstructed movement of personnel and fire suppression equipment.

6. Power operated equipment and industrial trucks shall be of a type approved for the location.

7. The cleaning of tanks or vessels which have contained flammable or combustible liquids shall only be done under the supervision of persons who understand the fire and explosion potential.

i. When necessary to make repairs involving "hot work," the work shall be authorized by the responsible individual in charge before the work is started.

ii. When necessary to enter a tank, pit, manhole or other confined space, such entry shall be authorized by the responsible individual in charge.

iii. Empty containers previously used for flammable or combustible liquids shall be removed to a detached, outside location, and, if not cleaned on the premises, removed from the plant as soon as practical.

8. Drainage facilities shall be provided to direct flammable and combustible liquid leakage and fire protection water to a safe location away from the building, any other structure, storage area or adjoining property.

i. Emergency drainage systems containing flammable and combustible liquids connected to public sewers or discharging into public waterways shall be equipped with traps or separator tanks.

(c) Static protection requirements are as follows:

1. All equipment such as tanks, machinery and piping, where an ignitable mixture may be present, shall be bonded and connected to a ground. The bond or ground or both shall be physically applied or shall be inherently present by the nature of the installation. This electrically conductive path shall have a resistance of not more than 1,000,000 ohms.

2. Electrically isolated sections of metallic piping or equipment shall be bonded to the other portions of the system or grounded.

3. Tank vehicles loaded or unloaded through open connections shall be grounded and bonded to the receiving system.

4. When a flammable mixture is transferred from one portable container to another, a bond shall be provided between the two containers.

5. Metal framing of buildings shall be grounded with resistance of not more than five ohms.

(d) The following apply to the process building:

1. The process building shall be designed and constructed as required by the building code in effect at the time of first occupancy and without a basement or pit. The first floor shall be at or above grade.

2. An organic coating manufacturing operation shall not be located in the same building with other uses. Operations incidental to, or in connection with, organic coating manufacturing shall not be classed as "other uses" for the purpose of this provision.

3. An organic coating manufacturing operation shall be accessible from at least one side for the purpose of fire control.

4. Where topographical conditions are such that flammable and combustible liquids may flow from the organic coating manufacturing operation so as to constitute a fire hazard to properties of others, drainage facilities shall be provided in accordance with N.J.A.C. 5:70–3.33(b)8 and (b)8i.

5. Structures in which Class I liquids or finely divided flammable solids are processed shall be provided with explosion venting.

6. Enclosed buildings in which Class I liquids are processed or handled shall be ventilated at a rate of not less than one-half cubic foot per minute per square foot of solid floor area. This shall be accomplished by exhaust fans preferably taking suction at floor levels, and discharging to a safe location outside the building. Provision shall be made for introduction of noncontaminated intake air in such a manner that all portions of solid floor areas will be subject to continuous uniformly distributed movement of air.

7. Heating in hazardous areas, if required, shall be provided by indirect means. Ignition sources such as open flames, or electrical heating elements, except as provided in (c) above, shall not be used within the building.

(e) The following apply to process mills, mixers and kettles:

1. Mills operating with close clearances and used for the processing of flammable and heat sensitive materials, such as nitrocellulose, shall be located in a detached building without other uses. The amount of nitrocellulose or other flammable material brought into the area shall be no more than that required for a batch.

2. Mixers shall be of the enclosed type or, if of the open type, shall be provided with properly fitted covers. Where gravity flow is used, a shutoff valve shall be installed as close as practical to the mixer and a control valve shall be provided near the end of the fill pipe.

3. Open kettles shall be located in an outside area, provided with a protective roof or in a separate building of noncombustible construction or separated from other areas by means of a noncombustible wall or partition having a fire resistance rating of at least two hours.

4. The vaporizer section of heat transfer systems heating closed kettles containing solvents shall be remotely located. Contact heated kettles containing solvents shall be equipped with safety devices that in case of fire can turn the process heat off, turn the cooling medium on, and inject gas into the kettle.

5. The kettle and thin-down tank shall be instrumented, controlled and interlocked so that any failure of the controls will result in a safe condition. The kettle shall be provided with a pressure rupture disc in case the normal vent becomes inoperative. The vent piping from the rupture disc shall be of minimum length and shall discharge to a safe location. The thin-down tank shall be adequately vented. Thinning operations shall be provided with an adequate vapor removal system.

(f) The following apply to process piping:

1. All piping, valves and fittings shall be designed for the working pressures and structural stresses to which they may be subjected. They shall be of steel or other material approved for the service intended.

2. Valves shall be of an indicating type. Terminal valves on remote pumping systems shall be of the "deadman" type which will shut off both the pump and the flow of solvent.

3. Piping systems shall be substantially supported and protected against physical damage. Piping shall be pitched to avoid unintentional trapping of liquids or suitable drains shall be provided.

4. Approved flexible connectors may be used where vibration exists or where frequent movement is necessary. Approved hose shall be used at dispensing stations.

5. Before being placed in service, all piping shall be free of leaks when tested to not less than one and one-half times the working pressure or a minimum of not less than five psig at the highest point in the system. Tests shall continue for a minimum of 30 minutes and shall be at the expense of the owner.

(g) The following apply to raw materials in process areas:

1. The amount of nitrocellulose brought into the operating area shall not exceed that required for a work shift. Any nitrocellulose which may be spilled on the floor or elsewhere shall be promptly swept up, put into a pail of

water, and removed at the end of the day or shift and disposed of by use or by burning in the open at a suitable detached location approved by the fire official.

2. Organic peroxides brought into the operating area shall be in the original shipping container and shall not exceed the quantity required for a work shift. When in the operating area, the peroxide shall not be placed in locations exposed to ignition source, heat or mechanical shocks.

(h) The following apply to the transfer of flammable and combustible liquids in process areas:

1. The transfer of large quantities of flammable and combustible liquids shall be through piping by means of pumps. The use of compressed air as a transfer medium shall be prohibited.

i. Pumps shall be selected for the flammable and combustible liquid use, the working pressures and the structural stresses to which they may be subjected.

2. Where solvents are pumped from storage to points of use, approved switches shall be provided in the processing areas and at the pumps to shut down the pumps in case of fire.

3. Empty and filled containers shall be stored outside the filling area.

(i) The following apply to the storage of raw materials and finished products:

1. The storage, handling and use of flammable and combustible liquids shall be in accordance with N.J.A.C. 5:70–3.28.

2. Tank storage for flammable and combustible liquids inside of buildings shall be permitted only in storage areas at or above grade which are separated from the processing area by a two hour fire-resistance rated fire separation wall. This is not intended to prevent processing equipment from container flammable and combustible liquids or storage in such quantities as are essential to the continuity of operations.

3. Tank car and tank vehicle loading and unloading stations for Class I liquids shall be separated from the processing area, other plant buildings, nearest line of adjoining property that may be built upon or public thoroughfare by a clear distance of not less than 25 feet.

i. Loading and unloading structures and platforms for flammable and combustible liquids shall be designed and installed in accordance with N.J.A.C. 5:70–3.28.

ii. Tank cars for flammable liquids shall be unloaded so as to be reasonably safe to persons and property. Tank vehicles for flammable and combustible liquids shall be loaded and unloaded in accordance with N.J.A.C. 5:70–3.28(i).

4. The nitrocellulose storage shall be in a separate building or in a room separated with a two hour fire-resistance rated fire separation wall. The nitrocellulose storage area shall not be used for any other purpose. Electrical wiring and equipment installed in such rooms or buildings shall conform to (c) above.

i. Nitrocellulose shall be stored only in closed containers. Barrels shall be stored on end and, if tiered, not more than two high. Barrels or other containers of nitrocellulose shall not be opened in the main storage building but at the point of use or other location set aside for the purpose.

ii. Spilled nitrocellulose shall be promptly wetted with water and disposed of by use or by burning in the open at a suitable detached location approved by the fire official.

5. The storage of organic peroxides shall be in accordance with N.J.A.C. 5:70–3.29(g).

i. The size of the package containing the organic peroxide shall be selected so that, as nearly as practical, full packages are utilized at one time. Any peroxide spilled shall be promptly cleaned up and disposed of as recommended by the supplier.

6. Finished products that are flammable or combustible liquids shall be stored outside of buildings, in a separate building, or in a room separated from the processing area by a wall having a fire-resistance rating of at least two hours, and openings shall be equipped with approved fire doors. The storage of finished products shall be in tanks or in closed containers in accordance with N.J.A.C. 5:70–3.28.

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).

5:70–3.34 Pesticide storage

(a) This section shall apply to both inside and outside storage of all forms of pesticides in portable containers other than fixed installation on transportation equipment. This section shall not apply to the following:

1. Highly toxic materials as regulated in N.J.A.C. 5:70–3.29; and

2. Storage in dwellings or private garages of pesticides registered by the Environmental Protection Agency for use around the home.

(b) Storage requirements are as follows:

1. Pesticides shall be stored in accordance with the following:

i. Pesticides that are flammable or combustible liquids shall be stored in accordance with the requirements of N.J.A.C. 5:70–3.28.

ii. Pesticides that are oxidizing agents shall be stored in accordance with N.J.A.C. 5:70–3.29.

iii. Pesticides shall not be stored in the same area with ammonium nitrate fertilizer.

iv. Pesticide storage shall be restricted to a first-story room or area which has direct access to the outside. Pesticides shall not be stored in basements. Storage areas shall be designed in a manner so as to prevent unauthorized entry.

v. Pesticides in containers which could be damaged by moisture or water shall be stored off the floor.

vi. Damaged or leaking containers of pesticides or materials contaminated by pesticides shall be immediately separated, disposed of or decontaminated in accordance with Department of Environmental Protection and Energy regulations.

vii. Pesticide storage shall be constructed in such a manner so that run-off from fire streams will not contaminate streams, ponds, ground water, crop lands or buildings.

2. Material safety data sheets for each pesticide shall be available at each storage location.

3. Pesticide storage buildings, storage rooms and areas shall be identified by approved prominent and legible signs.

4. Drums and packages shall be stacked in a stable manner.

5. Compressed gas pesticides shall be stored away from heat such as steam pipes and direct sunlight.

i. All compressed gas cylinders in service or storage shall be protected to insure against being knocked over.

ii. Compressed gas pesticide containers shall be separated from other compressed gases in accordance with N.J.A.C. 5:70–3.24(c)9.

iii. Containers shall be tightly closed and provided with a safety cap when not in use, whether empty or full.

APPENDIX 3–A

The following is a list of the standards referenced in this Code, the effective date of the standard, the promulgating agency of the standard and the section(s) of this Code that refer to the standard.

ANSI American National Standards Institute, Inc.
1430 Broadway
New York, New York 10018

Standard reference number	Title	*Referenced in Code Section number
K61.1-81	Anhydrous Ammonia-Safety Regulations for the Storage and Handling of	3.24(c)2 3.24(c)7
C-95-4	Safety Guide for the Prevention of Radio Frequency Radiation Hazards, IME No. 20-1981	3.26(g)6iii

ASME American Society of Mechanical Engineers
345 East 47th Street
New York, New York 10017

A17.1-1987	Safety Code For Elevators and Escalators	4.17(e)
UL 217	Single and Multiple Station Smoke Detectors	419(c)

ASTM American Society for Testing & Materials
1913 Race Street
Philadelphia, PA 19103

D56-87	Flash Point by Tag Closed Tester-Test method for	3.2 3.9(a)2i
D86-82	Distillation of Petroleum Products—Test method for	3.2
D93-85	Flash Point by Pensky—Martens Closed Tester—Test method for	3.2
D323-82	Vapor Pressure of Petroleum Products (Reid Method)—Test method for	3.2
E84-87	Surface Burning Characteristics of Building Materials—Test method for	3.2
E136-82	Behavior of Materials in a Vertical Tube Furnace at 75°C.—Test method for	3.2

BOCA Building Officials & Code Administrators, International
4051 West Flossmoor Road
Country Club H) ll, Illinois 60477

BOCA 84	Basic/National Mechanical Code	3.7(c)7 3.7(d)3

DOT Department of Transportation
400 7th Street, S.W.
Washington, D.C. 20234

49-CFR	Explosive and Other Dangerous Articles, Shipping Containers-Specifications for Transportation of, Parts 100/199	3:2(c)12 3.24(c)2 3.24(c)3 3.25(e)1 3.25(e)2 3.26(a)1 3.26(a)3vii 3.26(a)3viii 3.26(a)3ix 3.30(f)3

NFPA National Fire Protection Association
Batterymarch Park
Quincy, Massachusetts 02269

10-88	Extinguishers, Portable Fire—Standard for The Installation Maintenance and Use of	3.4(f)1

Standard reference number	Title	*Referenced in Code Section number
		3.4(f)2v
		3.7(d)8
		3.16(e)6
11-88	Standard for Low Expansion Foam and Combined Agent Systems	3.4(c)11
11A-88	Foam Systems, Medium and High Expansion—Standard for	3.4(c)11
12-89	Carbon Dioxide Extinguishing System—Standard for	3.4(c)12
12A-87	Halogenated Extinguishing Agent Systems—Halon 1301	3.4(c)13
12B-85	Halogenated Extinguishing Agent Systems—Halon 1211	3.4(c)13
13-89	Sprinkler Systems—Standards for the Installation of	3.4(a)1
13A-87	Sprinkler Systems—Inspection, Testing and Maintenance	3.4(a)1
14-86	Standpipe and Hose Systems—Standard for the Installation of	3.4(a)1
15-85	Water Spray Fixed Systems for Fire Protection—Standard for	3.4(a)1
		3.4(c)16
16-86	Deluge Foam-Water Sprinkler Systems and Foam-Water Spray Systems—Standard for the Installation of	3.4(c)11
17-85	Dry Chemical Extinguishing Systems—Standard for	3.4(c)14
17A-86	Wet Chemical Extinguishing Systems	3.4(c)15
20-87	Pumps, Centrifugal Fire—Standard for the Installation of	3.4(a)1
		3.4(c)5
22-87	Water Tanks for Private Fire Protection—Standard for	3.4(a)1
24-87	Installation and Private Fire Service Mains and Their Appurtenances—Standard for	3.4(a)1
30-87	Liquid, Flammable and Combustible—Code for	3.28(a)1
		3.28(b)2
		3.28(c)
		3.28(f)6
30A-87	Automotive and Marine Service Station Code	3.16(a)1
		3.16(f)
32-85	Dry Cleaning Plants—Standard for	3.9(a)1
33-85	Spray Application Using Flammable and Combustible Materials—Standard for	3.7(b)1
34-87	Dipping and Coating Processes Using Flammable or Combustible Liquids—Standard for	3.7(b)1
35-87	Coatings, Organic—Standard for the Manufacture of	3.33(b)1
40-88	Film Motion Picture, Cellulose Nitrate—Standard for the Storage and Handling of	3.21(a)
40E-86	Pyroxylin Plastics—Code for Storage of	3.22(a)
46-85	Forest Products—Recommended Safe Practice for Storage of	3.13(b)1
50-85	Oxygen Bulk Systems, at Consumer Sites—Standard for	3.24(a)
		3.24(c)2
		3.24(c)6
		3.25(a)
		3.25(c)2
50A-89	Hydrogen Systems, Gaseous, at Consumer Sites—Standard for	3.24(c)2
		3.24(c)8
		3.25(a)
50B-89	Hydrogen Systems, Liquefied, at Consumer Sites—Standard for	3.25(a)
		3.25(c)2
51-87	Gas Systems, Oxygen-Fuel for Welding, Cutting—Standard for the Installation and Operation of	3.20(a)
54-88	National Fuel Gas Code	3.3(i)1
		3.16(g)3
58-89	Gases, Liquefied Petroleum—Standard for the Storage and Handling of	3.16(g)2
		3.30(a)
		3.30(d)1
		3.30(e)1iii
		3.30(e)1v
		3.30(f)2
		3.30(f)3i
59-89	Gases, Liquefied Petroleum at Utility Plants—Standard for the Storage and Handling of	3.30(f)2
59A-85	Gas, Liquefied Natural—Standard for the Production, Storage and Handling of	3.25(c)2
61A-89	Manufacturing and Handling Starch	3.10(a)
61B-89	Dust Explosions in Grain Elevators and Bulk Grain Handling Facilities—Prevention of Fire	3.10(a)
61C-89	Dust Explosions in Feed Mills—Prevention of Fire	3.10(a)
65-87	Aluminum—Standard for the Processing and Finishing of	3.10(a)
68-88	Venting of Deflagrations—Guide for	3.10(a)
69-86	Explosion Prevention Systems—Standards On	3.10(a)
70-87	Electrical Code, National	3.7(b)3
		3.7(c)5ii
		3.7(d)6i
		3.7(d)6iii
		3.10(c)2
		3.11(b)3
		3.12(b)2i
		3.20(e)2i
		3.31(c)1iv
71-87	Signaling Systems, Central Station—Standard for	3.4(a)1
72A-87	Signaling Systems, Local Protective—Standard for	3.4(a)1
72B-86	Signaling Systems, Auxiliary Protective, for Fire Alarm Service	3.4(a)1
72C-86	Signaling Systems, Remote Station Protective—Standard for	3.4(a)1
72D-86	Signaling Systems, Proprietary Protective—Standard for	3.4(a)1

Standard reference number	Title	*Referenced in Code Section number
74-84	Household Fire Warning Equipment—Standard for the Installation, Maintenance, and Use of	419(b)
77-88	Static Electricity—Recommended Practice for	3.9(e)2 3.9(f)2 3.9(g)2 3.9(h)2 3.28(h)4
80-86	Fire Doors and Windows—Standard for	3.5(f)1
85F-88	Fuel Systems, Pulverized—Standard for the Installation and Operation of	3.10(a)
86-85	Industrial Furnace Design, Location and Equipment—Standard for	3.14(a)1
91-83	Blower and Exhaust Systems for Dust, Stock and Vapor Removal or Conveying—Standard for the Installation of	3.10(a) 3.13(c)3 3.18(b)4
99-87	Health Care Facilities—Standards for	3.24(a) 3.24(c)2 3.24(c)5
99C-87	Gas and Vacuum Systems	3.24(a) 3.24(c)2
102-86	Tents, Grandstands and Air Supported Structures, Used For Places of Assembly—Standard for	3.17(b)1
120-88	Coal Preparation Plants—Standards for	3.10(a)
211-88	Chimneys, Fireplaces and Venting Systems—Standard for	3.3(i)1
231-87	General Storage, Indoors—Standard for	3.4(a)1
231C-86	Rack Storage—Standard for	3.4(a)1
231D-86	Storage of Rubber Tires—Standard for	3.4(a)1
303-86	Marinas and Boatyards, Fire Protection—Standard for	3.16(f)
385-85	Liquids, Flammable and Combustible—Tank Vehicles—Recommended Regulatory Standard for	3.28(i)2 3.28(i)3
407-85	Aircraft Fuel Servicing—Standard for	3.6(b)1 3.6(e)5
490-86	Ammonium Nitrate—Code for the Storage of	3.10(a)
495-85	Explosives and Blasting Agents—Code for the Manufacture Transportation, Storage and Use of	3.26(a)1
651-87	Aluminum or Magnesium Powder—Standard for the Manufacture of	3.10(a) 3.31(d)1
654-88	Dust Explosions in the Plastics Industry—Prevention of	3.10(a)
655-88	Prevention of Sulfur Fires and Explosions	3.10(a)
664-87	Dust Explosions in Woodworking and Wood Flour Manufacturing Plants—Prevention of	3.13(c)3
701-77	Fire Tests for Flame Resistant Textiles and Films—Standard Method for	3.15(c)1 3.15(c)2 3.17(b)2
704-85	Identification of the Fire Hazards of Materials	3.29(c)7
801-86	Radioactive Materials, Facilities Handling Recommended Fire Protection—Practice for	3.29(f)1
1123-90	Fireworks, Public Display of—Standard for	3.27(b)1
1124-88	Fireworks, Manufacture, Transportation and Storage of—Code for	3.27(b)1

* All Code references refer to, and should be preceded by, N.J.A.C. 5:18-

Administrative correction, effective May 18, 1992.
See: 24 N.J.R. 1875(a).
Amended by R.1993 d.197, effective May 3, 1993.
See: 25 N.J.R. 393(a), 25 N.J.R. 1868(a).
Add references to NFPA and ANSI standards.

APPENDIX 3–B

Cross References:

Old Citation	New Citation
F-200.0	3.2(a)
F-201.0	3.2(a)
F-300.0	3.3(a)
F-301.0	3.3(b)
F-302.0	3.3(c)
F-303.0	3.3(d)
F-304.0	3.3(e)
F-305.0	3.3(f)
F-306.0	3.3(g)
F-307.0	3.3(h)
F-308.0	3.3(i)
F-309.0	3.3(j)
F-310.0	3.3(k)
F-311.0	3.3(*l*)
F-312.0	3.3(m)
F-313.0	3.3(n)
F-314.0	3.3(*o*)
F-315.0	3.3(p)
F-316.0	3.3(q)
F-317.0	3.3(r)
F-318.0	3.3(s)
F-319.0	3.3(t)
new section	3.3(u)
new section	3.3(v)
F-400.0	3.4(a)
F-400.1	3.2(a)
F-403.0	3.4(b)
F-404.0	3.4(c)
F-405.0	3.4(d)
F-408.0	3.4(e)
F-409.0	3.4(f)
F-410.0	3.4(g)
F-501.0	3.5(b)
F-503.0	3.5(d)
F-504.0	3.5(e)
F-505.0	3.5(f)
F-600.0	3.6(a)
F-601.0	3.6(b)
F-602.0	3.6(c)
F-603.0	3.6(d)
F-604.0	3.6(e)

Old Citation	New Citation
F-700.0	3.7(a)
F-701.0	3.7(b)
F-702.0	3.7(c)
F-703.0	3.7(d)
F-704.0	3.7(e)
F-705.0	3.7(f)
F-800.0	3.8(a)
F-801.0	3.8(b)
F-802.0	3.8(c)
F-900.0	3.9(a) and 3.2(a)
F-901.0	3.9(b)
F-902.0	3.9(c)
F-903.0	3.9(d)
F-904.0	3.9(e)
F-905.0	3.9(f)
F-906.0	3.9(g)
F-907.0	3.9(h)
F-908.0	3.9(i)
F-1000.0	3.10(a)
F-1001.1	3.10(b)
F-1002.0	3.10(c)
F-1100.0	3.11(a)
F-1101.0	3.11(b)
F-1200.0	3.12(a) and 3.2(a)
F-1201.0	3.12(b)
F-1300.0	3.13(a)
F-1301.0	3.13(b)
F-1302.0	3.13(c)
F-1400.0	3.14(a) and 3.2(a)
F-1401.0	3.14(b)
F-1402.0	3.14(c)
F-1403.0	3.14(d)
F-1500.0	3.15(a)
F-1501.0	3.15(b)
F-1502.0	3.15(c)
F-1503.0	3.15(d)
F-1504.0	3.15(e)
F-1505.0	3.15(f)
F-1600.0	3.16(a)
F-1601.0	3.16(b)
F-1602.0	3.16(c)
F-1603.0	3.16(d)
F-1604.0	3.16(e)
F-1605.0	3.16(f)
new section	3.16(g)
F-1700.0	3.17(a)
F-1701.0	3.17(b)
F-1702.0	3.17(c)
F-1703.0	3.17(d)
F-1800.0	3.18(a)
F-1801.0	3.18(b)
F-1900.0	3.19(a)
F-1901.0	3.19(b)
F-2000.0	3.20(a) and 3.2(a)
F-2001.0	3.20(c)
F-2002.0	3.20(d)
F-2003.0	3.20(e)
F-2004.0	3.20(f)
F-2005.0	3.20(g)
F-2006.0	3.20(h)
F-2007.0	3.20(i)
F-2100.0	3.21(a)
F-2101.0	3.21(c)
F-2200.0	3.22(a)
F-2201.0	3.22(b)
F-2300.0	3.23(a)
F-2301.0	3.23(b)
F-2400.0	3.24(a) and 3.2(a)
F-2401.0	3.24(c)
F-2500.0	3.25(a) and 3.2(a)
F-2501.0	3.25(c)
F-2502.0	3.25(d)
F-2503.0	3.25(e)
F-2600.0	3.26(a) and 3.2(a)
F-2601.0	3.26(b)
F-2602.0	3.26(c)
F-2603.0	3.26(d)
F-2605.0	3.26(e)
F-2607.0	3.26(f)
F-2608.0	3.26(g)
F-2700.0	3.27(a)
F-2701.0	3.27(b)
F-2702.0	3.27(c)
F-2800.0	3.28(a)
F-2801.0	3.28(b)
F-2802.0	3.28(c)
F-2803.0	3.28(d)
F-2804.0	3.28(e)
F-2805.0	3.28(f) and (g)
F-2806.0	3.28(h)
F-2807.0	3.27(i)
F-2900.0	3.29(a) and 3.2(a)
F-2901.0	3.29(c)
F-2902.0	3.29(d)
F-2903.0	3.29(e)
F-2904.0	3.29(f)
F-2905.0	3.29(g)
F-2906.0	3.29(h)
F-2907.0	3.29(i)
F-2908.0	3.29(j)
F-2909.0	3.29(k)
F-3000.0	3.30(a) and 3.2(a)
F-3001.0	3.30(c)
F-3002.0	3.30(d)
F-3003.0	3.30(e)
F-3004.0	3.30(f)
F-3005.0	3.30(g)
F-3006.0	3.30(h)
F-3100.0	3.31(a)
F-3101.0	3.31(b)
F-3102.0	3.31(c)
F-3103.0	3.31(d)
F-3200.0	3.32(a)
F-3201.0	3.32(b)
F-3300.0	3.33(a) and 3.2(a)
F-3301.0	3.33(b)
F-3302.0	3.33(c)
F-3303.0	3.33(d)
F-3304.0	3.33(e)
F-3305.0	3.33(f)
F-3306.0	3.33(g)
F-3307.0	3.33(h)
F-3308.0	3.33(i)
new section	3.33(b)
new section	3.34(a)
Appendix A	Appendix 3-A
new section	Appendix 3-B

SUBCHAPTER 4. FIRE SAFETY CODE

5:70–4.1 Code adopted; scope

(a) Pursuant to authority of the Uniform Fire Safety Act (P.L. 1983, c.383, N.J.S.A. 52:27D–192 et seq.), the Commissioner hereby adopts this subchapter as the State Fire Safety Code.