

NFPA 1

Uniform Fire Code™

2006 Edition



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An International Codes and Standards Organization

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NFPA 1 Uniform Fire Code™

2006 Edition

This edition of NFPA 1, *Uniform Fire Code*™, was prepared by the Technical Committee on Uniform Fire Code and acted on by NFPA at its June Association Technical Meeting held June 6–10, 2005, in Las Vegas, NV. It was issued by the Standards Council on July 29, 2005, with an effective date of August 18, 2005, and supersedes all previous editions.

This edition of NFPA 1 was approved as an American National Standard on August 18, 2005.

Origin and Development of NFPA 1

This code was originally developed as a result of the requests of many members of the National Fire Protection Association for a document covering all aspects of fire protection and prevention that used the other developed NFPA codes and standards. NFPA staff initiated this work in 1971 upon a directive from the NFPA Board of Directors.

The original code was written around a format that served as a guide for the development of a local fire prevention code. Prerogatives of local officials were excluded from the main text of the document but included within appendices as guidance for exercising desired prerogatives.

In the late 1980s, the Fire Marshals Association of North America undertook the task of developing a code that was more self-contained, adding administrative sections and extracting heavily from other NFPA codes and standards. The draft was submitted to the Fire Prevention Code Committee. The Committee examined changes in the built environment as it is affected by fire and incorporated significant portions of the *Life Safety Code*®. A special task group on hazardous materials examined technological changes in the handling, storage, and use of flammable and combustible materials. Chapters extracting hazardous material requirements placed a greater emphasis on protection of life and property from chemical products made and used in the environment. A major rewrite resulted in the 1992 edition of the *Fire Prevention Code*.

The 1997 edition updated the text extracted from other NFPA codes and standards and added compliance with additional NFPA codes and standards as part of the requirements of NFPA 1.

The 2000 edition of NFPA 1 was a complete revision that updated the text extracted from other NFPA codes and standards. Additional direct references from NFPA codes and standards that are essential to a code official's use of the document were added. The Committee also added a new section on performance-based design as a valuable tool for code officials and design professionals. NFPA 1 was restructured to be more functional with respect to administration, code enforcement, and regulatory adoption processes.

The 2003 edition of NFPA 1, *Uniform Fire Code*™, was a complete revision of the code. It incorporated provisions from the Western Fire Chiefs, *Uniform Fire Code*™, under a partnership between NFPA and Western Fire Chiefs, while it updated and expanded the provisions extracted from other key NFPA codes and standards. To emphasize the partnership, the document was renamed NFPA 1, *Uniform Fire Code*™. The *Uniform Fire Code* is a trademark of the Western Fire Chiefs Association.

NFPA 1, *Uniform Fire Code*™, was restructured into parts to be more compatible with the regulatory adoption procedures, including administration and code enforcement, occupancies, processes, equipment, and hazardous materials provisions. The Committee included a newly expanded chapter on performance-based design as an enhanced tool for code officials and design professionals. Additional extracts and references from NFPA codes and standards that are essential to a code official's use of the document were added, bringing the number of referenced NFPA codes and standards to over 125. Additional chapters on hazardous materials were included that incorporate the provisions covered in the *Uniform Fire Code*™.

The 2006 edition of NFPA 1, *Uniform Fire Code*[™], is a complete revision of the *Code* that incorporates the provisions from NFPA 230, *Standard for the Fire Protection of Storage*. The Technical Committee on Uniform Fire Code was previously given responsibility for NFPA 230 and incorporated the requirements into NFPA 1 rather than maintain a separate standard.

This edition also includes new chapters on classification of occupancy, motion picture studios, outdoor tire storage, and general storage, while updating and expanding the provisions extracted from other key NFPA codes and standards that were deemed essential to a code official's use of the document. The number of NFPA codes and standards referenced in this edition is 117.

NFPA 1 reflects the technical knowledge of the committees who are responsible for the codes and standards that are referenced in and from which text is extracted and incorporated into the technical provisions of NFPA 1. This *Code* is intended to provide state, county, and local jurisdictions with an effective fire code.

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NOTE: Membership on a committee shall not in and of itself constitute an endorsement of the Association or any document developed by the committee on which the member serves.

Committee Scope: This Committee shall have primary responsibility for documents on a Fire Prevention Code that includes appropriate administrative provisions, to be used with the National Fire Codes for the installation, operation, and maintenance of buildings, structures, and premises for the purpose of providing safety to life and property from fire and explosion. This includes development of requirements for, and maintenance of, systems and equipment for fire control and extinguishment. Safety to life of occupants of buildings and structures is under the primary jurisdiction of the Committee on Safety to Life.

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NFPA 1 Uniform Fire Code™

2006 Edition

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NOTICE: An asterisk (*) following the number or letter designating a paragraph indicates that explanatory material on the paragraph can be found in Annex A.

A reference in brackets [] following a section or paragraph indicates material that has been extracted from another NFPA document. As an aid to the user, the complete title and edition of the source documents for extracts in mandatory sections of the document are given in Chapter 2 and those for extracts in informational sections are given in Annex P. Editorial changes to extracted material consist of revising references to an appropriate division in this document or the inclusion of the document number with the division number when the reference is to the original document. Requests for interpretations or revisions of extracted text shall be sent to the technical committee responsible for the source document.

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

Chapter 1 Administration

1.1 Scope.

1.1.1 The scope includes, but is not limited to, the following:

- (1) Inspection of permanent and temporary buildings, processes, equipment, systems, and other fire and related life safety situations
- (2) Investigation of fires, explosions, hazardous materials incidents, and other related emergency incidents
- (3) Review of design and construction plans, drawings, and specifications for life safety systems, fire protection systems, access, water supplies, processes, and hazardous materials and other fire and life safety issues
- (4) Fire and life safety education of fire brigades, employees, responsible parties, and the general public
- (5) Existing occupancies and conditions, the design and construction of new buildings, remodeling of existing buildings, and additions to existing buildings
- (6) Design, alteration, modification, construction, maintenance, and testing of fire protection systems and equipment
- (7)*Access requirements for fire department operations
- (8) Hazards from outside fires in vegetation, trash, building debris, and other materials
- (9) Regulation and control of special events including, but not limited to, assemblage of people, exhibits, trade shows, amusement parks, haunted houses, outdoor events, and other similar special temporary and permanent occupancies
- (10) Interior finish, decorations, furnishings, and other combustibles that contribute to fire spread, fire load, and smoke production

- (11) Storage, use, processing, handling, and on-site transportation of flammable and combustible gases, liquids, and solids
- (12) Storage, use, processing, handling, and on-site transportation of hazardous materials
- (13) Control of emergency operations and scenes
- (14) Conditions affecting fire fighter safety

1.1.2 Title. The title of this *Code* shall be NFPA 1, *Uniform Fire Code*, of the National Fire Protection Association (NFPA).

1.2* Purpose. The purpose of this *Code* is to prescribe minimum requirements necessary to establish a reasonable level of fire and life safety and property protection from the hazards created by fire, explosion, and dangerous conditions.

1.3 Application.

1.3.1 This *Code* shall apply to both new and existing conditions.

1.3.2* Referenced Standards.

1.3.2.1 Details regarding processes, methods, specifications, equipment testing and maintenance, design standards, performance, installation, or other pertinent criteria contained in those codes and standards listed in Chapter 2 of this *Code* shall be considered a part of this *Code*.

1.3.2.2 Where no applicable codes, standards, or requirements are set forth in this *Code* or contained within other laws, codes, regulations, ordinances, or bylaws adopted by the authority having jurisdiction (AHJ), compliance with applicable codes and standards of NFPA or other nationally recognized standards as are approved shall be deemed as prima facie evidence of compliance with the intent of this *Code*. (See Annex O.)

1.3.2.3 Nothing herein shall derogate from the authority of the AHJ to determine compliance with codes or standards for those activities or installations within the AHJ's responsibility.

1.3.3 Conflicts.

1.3.3.1 When a requirement differs between this *Code* and a referenced document, the requirement of this *Code* shall apply.

1.3.3.2 When a conflict between a general requirement and a specific requirement occurs, the specific requirement shall apply.

1.3.4 Multiple Occupancies. Where two or more classes of occupancy occur in the same building or structure and are so intermingled that separate safeguards are impracticable, means of egress facilities, construction, protection, and other safeguards shall comply with the most restrictive fire safety requirements of the occupancies involved.

1.3.5 Vehicles and Vessels. Vehicles, vessels, or other similar conveyances, when in fixed locations and occupied as buildings, as described by Section 11.6 of NFPA 101, *Life Safety Code*, shall be treated as buildings and comply with this *Code*.

1.3.6 Buildings.

1.3.6.1 Buildings permitted for construction after the adoption of this *Code* shall comply with the provisions stated herein for new buildings.

1.3.6.2* Buildings in existence or permitted for construction prior to the adoption of this *Code* shall comply with the provisions stated herein or referenced for existing buildings (see 10.3.2).

1.3.6.3 Repairs, renovations, alterations, reconstruction, change of occupancy, and additions to buildings shall conform with NFPA 101 and the building code.

1.3.6.4 Newly introduced equipment, materials, and operations regulated by this *Code* shall comply with the requirements for new construction or processes.

1.3.7 Severability. If any provision of this *Code* or the application thereof to any person or circumstance is held invalid, the remainder of the *Code* and the application of such provision to other persons or circumstances shall not be affected thereby.

1.4 Equivalencies, Alternatives, and Modifications.

1.4.1 Equivalencies. Nothing in this *Code* is intended to prevent the use of systems, methods, or devices of equivalent or superior quality, strength, fire resistance, effectiveness, durability, and safety to those prescribed by this *Code*, provided technical documentation is submitted to the AHJ to demonstrate equivalency and the system, method, or device is approved for the intended purpose.

1.4.2 Alternatives. The specific requirements of this *Code* shall be permitted to be altered by the AHJ to allow alternative methods that will secure equivalent fire safety, but in no case shall the alternative afford less fire safety than, in the judgment of the AHJ, that which would be provided by compliance with the provisions contained in this *Code*.

1.4.3 Modifications. The AHJ is authorized to modify any of the provisions of this *Code* upon application in writing by the owner, a lessee, or a duly authorized representative where there are practical difficulties in the way of carrying out the provisions of the *Code*, provided that the intent of the *Code* shall be complied with, public safety secured, and substantial justice done.

1.4.4 Buildings with equivalency, alternatives, or modifications, approved by the AHJ shall be considered as conforming with this *Code*.

1.4.5 Each application for an alternative fire protection feature shall be filed with the AHJ and shall be accompanied by such evidence, letters, statements, results of tests, or other supporting information as required to justify the request. The AHJ shall keep a record of actions on such applications, and a signed copy of the AHJ's decision shall be provided for the applicant.

1.4.6 Approval. The AHJ shall approve such alternative construction systems, materials, or methods of design when it is substantiated that the standards of this *Code* are at least equaled. If, in the opinion of the AHJ, the standards of this *Code* shall not be equaled by the alternative requested, approval for permanent work shall be refused. Consideration shall be given to test or prototype installations.

1.4.7 Tests.

1.4.7.1 Whenever there is insufficient evidence of compliance with the requirements of this *Code* or evidence that any material or method of construction does not conform to the requirements of this *Code*, or to substantiate claims for alternative construction systems, materials, or methods of construction, the AHJ shall be permitted to require tests for proof of compliance to be made by an approved agency at the expense of the owner or his/her agent.

1.4.7.2 Test methods shall be as specified by this *Code* for the material in question. If there are not appropriate test methods

specified in this *Code*, the AHJ is authorized to accept an applicable test procedure from another recognized source.

1.4.7.3 Copies of the results of all such tests shall be retained in accordance with Section 1.11.

1.5 Units.

1.5.1 International System of Units. Metric units of measurement in this *Code* are in accordance with the modernized metric system known as the International System of Units (SI).

1.5.2 Primary and Equivalent Values. If a value for a measurement as given in this *Code* is followed by an equivalent value in other units, the first stated value shall be regarded as the requirement. A given equivalent value could be approximate.

1.6 Enforcement. This *Code* shall be administered and enforced by the AHJ designated by the governing authority. (See Annex C for sample wording for enabling legislation.)

1.7 Authority.

1.7.1 Administration. The provisions of this *Code* shall apply without restriction, unless specifically exempted.

1.7.2* Minimum Qualifications to Enforce this Code. The AHJ shall adopt minimum qualifications for all persons assigned the responsibility of administering and enforcing this *Code*.

1.7.3 Interpretations.

1.7.3.1 The AHJ is authorized to render interpretations of this *Code* and to make and enforce rules and supplemental regulations in order to carry out the application and intent of its provisions.

1.7.3.2 Such interpretations, rules, and regulations shall be in conformance with the intent and purpose of this *Code* and shall be available to the public during normal business hours.

1.7.4 Enforcement Assistance. Police and other enforcement agencies shall have authority to render necessary assistance in the enforcement of this *Code* when requested to do so by the AHJ.

1.7.5 Delegation of Authority. The AHJ shall be permitted to delegate to other qualified individuals such powers as necessary for the administration and enforcement of this *Code*.

1.7.6 Inspection.

1.7.6.1 The AHJ shall be authorized to inspect, at all reasonable times, any building or premises for dangerous or hazardous conditions or materials as set forth in this *Code*.

1.7.6.2 The AHJ shall have authority to order any person(s) to remove or remedy such dangerous or hazardous condition or material. Any person(s) failing to comply with such order shall be in violation of this *Code*.

1.7.6.3 To the full extent permitted by law, any AHJ engaged in fire prevention and inspection work shall be authorized at all reasonable times to enter and examine any building, structure, marine vessel, vehicle, or premises for the purpose of making fire safety inspections.

1.7.6.4 Before entering, the AHJ shall obtain the consent of the occupant thereof or obtain a court warrant authorizing entry for the purpose of inspection except in those instances where an emergency exists.

1.7.6.5 As used in 1.7.6.4, emergency means circumstances that the AHJ knows, or has reason to believe, exist and that can constitute immediate danger to life and property.

1.7.6.6 Persons authorized to enter and inspect buildings, structures, marine vessels, vehicles, and premises as herein set forth shall be identified by credentials issued by the governing authority.

1.7.7 Where conditions exist and are deemed hazardous to life and property by the AHJ, the AHJ shall have the authority to summarily abate such hazardous conditions that are in violation of this *Code*.

1.7.8 Interference with Enforcement. Persons shall not interfere or cause conditions that would interfere with an AHJ carrying out any duties or functions prescribed by this *Code*.

1.7.9 Impersonation. Persons shall not use a badge, uniform, or other credentials to impersonate the AHJ.

1.7.10 Investigation.

1.7.10.1 Authority. The AHJ shall have the authority to investigate the cause, origin, and circumstances of any fire, explosion, release of hazardous materials, or other hazardous condition.

1.7.10.2 Evidence. The AHJ shall have the authority to take custody of all physical evidence relating to the cause of the fire, explosion, release of hazardous materials, or other hazardous condition.

1.7.10.3 Limiting Access. The AHJ shall have the authority to limit access to emergencies or other similar situations.

1.7.10.4 Trade Secret. Information that could be related to trade secrets or processes shall not be made part of the public record except as could be directed by a court of law.

1.7.11 Plans and Specifications. The AHJ shall have the authority to require plans and specifications to ensure compliance with applicable codes and standards.

1.7.12 Inspection of Construction and Installation.

1.7.12.1 The AHJ shall be notified by the person performing the work when the installation is ready for a required inspection.

1.7.12.2 Whenever any installation subject to inspection prior to use is covered or concealed without having first been inspected, the AHJ shall have the authority to require that such work be exposed for inspection.

1.7.12.3 When any construction or installation work is being performed in violation of the plans and specifications as approved by the AHJ, a written notice shall be issued to the responsible party to stop work on that portion of the work that is in violation.

1.7.12.4 The notice shall state the nature of the violation, and no work shall be continued on that portion until the violation has been corrected.

1.7.13 Certificate of Occupancy. When the building code requires a certificate of occupancy, the certificate of occupancy shall not be issued until approved by the AHJ for fire code enforcement.

1.7.14 Stop Work or Evacuation.

1.7.14.1 The AHJ shall have the authority to order an operation or use stopped and the immediate evacuation of any oc-

cupied building or area when such building or area has hazardous conditions that present imminent danger.

1.7.14.2 Whenever any work is being done contrary to provisions of this *Code*, the AHJ is hereby authorized to order such work stopped.

1.7.14.3 Such work shall immediately stop until authorized by the AHJ to proceed.

1.7.15 Standby Fire Personnel.

1.7.15.1 The AHJ shall have the authority to require standby fire personnel or an approved fire watch when potentially hazardous conditions or a reduction in a life safety feature exist due to the type of performance, display, exhibit, occupancy, contest or activity, an impairment to a fire protection feature, or the number of persons present.

1.7.15.2* The owner, agent, or lessee shall employ one or more qualified persons, as required and approved, to be on duty.

1.7.15.2.1 The cost of standby fire personnel shall be at no cost to the AHJ.

1.7.15.3 Such standby fire personnel or fire watch personnel shall be subject to the AHJ's orders at all times and shall be identifiable and remain on duty during the times such places are open to the public, when such activity is being conducted, or as required by the AHJ.

1.7.16 Public Fire Education.

1.7.16.1 The AHJ shall have the authority to develop and implement a public fire safety education program as deemed necessary for the general welfare with respect to the potential fire hazards within the jurisdiction.

1.7.16.2 The AHJ shall have the authority to ensure duly authorized public fire safety education programs or public fire safety messages are disseminated to the general public.

1.8 Duties and Powers of the Incident Commander.

1.8.1 Authority. The incident commander conducting operations in connection with the extinguishment and control of any fire, explosion, hazardous materials incident, natural disaster, rescue, and/or other emergency shall have authority to direct all operations of fire extinguishment, mitigation of a hazardous materials incident, natural disaster, rescue, and/or control and to take necessary precautions to save life, protect property, and prevent further injury or damage.

1.8.2 Controlling Scene. During any emergency described in 1.8.1, including the investigation of the cause of such emergency, the incident commander or authorized representative shall be permitted to control or prohibit the approach to the scene of such emergency by any vehicle, vessel, or person.

1.8.3 Obstruction of Operations. No person shall obstruct the operations of the fire department or disobey any command of the incident commander or authorized representative or any part thereof, or any order of a police officer assisting the fire department.

1.8.4 Scene Barrier. The incident commander or authorized representative in charge of an emergency scene shall have the authority to establish barriers to control access in the vicinity of such emergency and to place, or cause to be placed, ropes, guards, barricades, or other obstructions across any street or alley to delineate such emergency scene barrier.

1.8.5 No person, except as authorized by the incident commander in charge of the emergency, shall be permitted to cross barriers established in accordance with 1.8.4.

1.9 Liability.

1.9.1 The AHJ, and other individuals charged by the AHJ or the incident commander with the control or extinguishment of any fire, the enforcement of this *Code* or any other official duties, acting in good faith and without malice in the discharge of their duties, shall not thereby be rendered personally liable for any damage that could accrue to persons or property as a result of any act or by reason of any act or omission in the discharge of their duties.

1.9.2 Any suit brought against the AHJ, the incident commander, or such individuals because of such act or omission performed in the enforcement of any provision of such codes or other pertinent laws or ordinances implemented through the enforcement of this *Code* or enforced by the code enforcement agency shall be defended by this jurisdiction until final termination of such proceedings, and any judgment resulting therefrom shall be assumed by this jurisdiction.

1.9.3 This *Code* shall not be construed to relieve from or lessen the responsibility of any person owning, operating, or controlling any building or structure for any damages to persons or property caused by defects, nor shall the code enforcement agency or its parent jurisdiction be held as assuming any such liability by reason of the inspections authorized by this *Code* or any permits or certificates issued under this *Code*.

1.10 Board of Appeals.

1.10.1 Establishment of Board of Appeals.

1.10.1.1 A Board of Appeals shall be established consisting of members and alternate members who shall be appointed by the appointing official of the jurisdiction by reason of education, experience, and knowledge and are deemed to be competent to sit in judgment on matters concerning this *Code* and its enforcement.

1.10.1.2 No more than one of said members or their alternates shall be engaged in the same business, profession, or line of endeavor.

1.10.1.3 The members shall serve for a term of three years, except for the initial appointees who shall serve as follows: two for a term of one year, two for a term of two years, and three for a term of three years.

1.10.1.4 All members and any alternate members shall be appointed and shall serve in accordance with the terms and conditions of the AHJ.

1.10.2 Rules of Board of Appeals. The Board of Appeals shall establish rules and regulations for conducting its business and shall render all decisions and findings in writing to the AHJ, with a copy to the appellant.

1.10.3 Conflicts of Interest.

1.10.3.1 Board of Appeals members shall not be officers, agents, or employees of the jurisdiction.

1.10.3.2 No member of the Board of Appeals shall sit in judgment on any case in which the member, personally, is directly interested.

1.10.4 Duties of Board of Appeals.

1.10.4.1 The Board of Appeals shall provide for reasonable interpretation of the provisions of this *Code* and rule on appeals from decisions of the AHJ.

1.10.4.2 The ruling of the Board of Appeals shall ensure that the intent of the *Code* is complied with and public safety is secured.

1.10.4.3 The Board of Appeals shall be permitted to grant alternatives or modifications through the procedures outlined in Section 1.4 of this *Code*.

1.10.4.4 The Board of Appeals shall not have the authority to waive the requirements of this *Code*.

1.10.5 Meetings of Board of Appeals.

1.10.5.1 The Board of Appeals shall meet whenever directed by the appointing authority to interpret the provisions of this *Code* and to consider and rule on any properly filed appeal from a decision of the AHJ, giving at least five days' notice of hearing, but in no case shall it fail to meet on an appeal within 30 calendar days of the filing of notice of appeal.

1.10.5.2 All of the meetings of the Board of Appeals shall be open to the public.

1.10.6 Quorum. Two-thirds, but not less than four members, of the Board of Appeals shall constitute a quorum. In varying the application of any provision of this *Code*, or in modifying an order of the AHJ, a majority vote shall be required.

1.10.7 Meetings and Records.

1.10.7.1 Meetings of the Board of Appeals shall be held at the call of the chair and at such other times as the board determines.

1.10.7.2 All hearings before the Board of Appeals shall be open to the public.

1.10.7.3 The Board of Appeals shall keep minutes of its proceedings showing the vote of each member on every question, or if the member is absent or fails to vote, indicating such actions.

1.10.7.4 The Board of Appeals shall also keep records of its examinations and other official actions.

1.10.7.5 Minutes and records of the Board of Appeals shall be public record.

1.10.8 Procedures. The Board of Appeals shall establish rules and regulations for its own procedures consistent with the provisions of this *Code*.

1.10.9 Means of Appeals.

1.10.9.1 Any person shall be permitted to appeal a decision of the AHJ to the Board of Appeals when it is claimed that any one or more of the following conditions exist:

- (1) The true intent of the codes or ordinances described in this *Code* has been incorrectly interpreted.
- (2) The provisions of the codes or ordinances do not fully apply.
- (3) A decision is unreasonable or arbitrary as it applies to alternatives or new materials.

1.10.9.2 An appeal shall be submitted to the AHJ in writing within 30 calendar days of notification of violation outlining the *Code* provision from which relief is sought and the remedy proposed.

1.10.9.3* All documentation supporting an appeal shall be submitted to the AHJ.

1.11 Records and Reports.

1.11.1 A record of examinations, approvals, equivalencies, and alternates shall be maintained by the AHJ and shall be available for public inspection during business hours in accordance with applicable laws.

1.11.2 The AHJ shall keep a record of all fire prevention inspections, including the date of such inspections and a summary of any violations found to exist, the date of the services of notices, and a record of the final disposition of all violations.

1.11.3 Emergency Response Records.

1.11.3.1 The fire department shall keep a record of fire and other emergency responses occurring within its jurisdiction and of facts concerning the same, including statistics as to the extent and damage caused by such fires or emergencies.

1.11.3.2 The fire department shall report its incident record data, collected in accordance with 1.11.3, to the recognized state agency responsible for collecting such data.

1.11.4 All records required to be kept shall be maintained until their usefulness has been served or as required by law.

1.12 Permits and Approvals.

1.12.1 The AHJ shall be authorized to establish and issue permits, certificates, and approvals pertaining to conditions, operations, or materials hazardous to life or property pursuant to Section 1.12.

1.12.2 Applications for permits shall be made to the AHJ on forms provided by the jurisdiction and shall include the applicant's answers in full to inquiries set forth on such forms.

1.12.2.1 Applications for permits shall be accompanied by such data as required by the AHJ and fees as required by the jurisdiction.

1.12.2.2 The AHJ shall review all applications submitted and issue permits as required.

1.12.2.3 If an application for a permit is rejected by the AHJ, the applicant shall be advised of the reasons for such rejection.

1.12.2.4 Permits for activities requiring evidence of financial responsibility by the jurisdiction shall not be issued unless proof of required financial responsibility is furnished.

1.12.3 Approvals by Other Authorities Having Jurisdiction.

1.12.3.1 The AHJ shall have the authority to require evidence to show that other regulatory agencies having jurisdiction over the design, construction, alteration, repair, equipment, maintenance, process, and relocation of structures have issued appropriate approvals.

1.12.3.2 The AHJ shall not be held responsible for enforcement of the regulations of such other regulatory agencies unless specifically mandated to enforce those agencies' regulations.

1.12.4 Misrepresentation.

1.12.4.1 Any attempt to misrepresent or otherwise deliberately or knowingly design; install; service; maintain; operate; sell; represent for sale; falsify records, reports, or applications; or other related activity in violation of the requirements prescribed by this *Code* shall be a violation of this *Code*.

1.12.4.2 Such violations shall be cause for immediate suspension or revocation of any related approvals, certificates, or permits issued by this jurisdiction.

1.12.4.3 Such violations shall be subject to any other criminal or civil penalties as available by the laws of this jurisdiction.

1.12.5 A permit shall be predicated upon compliance with the requirements of this *Code* and shall constitute written authority issued by the AHJ to maintain, store, use, or handle materials, or to conduct processes that could produce conditions hazardous to life or property, or to install equipment used in connection with such activities.

1.12.6 Any permit issued under this *Code* shall not take the place of any other approval, certificate, license, or permit required by other regulations or laws of this jurisdiction.

1.12.7 Where additional permits, approvals, certificates, or licenses are required by other agencies, approval shall be obtained from those other agencies.

1.12.8 The AHJ shall have the authority to require an inspection prior to the issuance of a permit.

1.12.9 A permit issued under this *Code* shall continue until revoked or for the period of time designated on the permit.

1.12.10 The permit shall be issued to one person or business only and for the location or purpose described in the permit.

1.12.11 Any change that affects any of the conditions of the permit shall require a new or amended permit.

1.12.12 The AHJ shall have the authority to grant an extension of the permit time period upon presentation by the permittee of a satisfactory reason for failure to start or complete the work or activity authorized by the permit.

1.12.13 A copy of the permit shall be posted or otherwise readily accessible at each place of operation and shall be subject to inspection as specified by the AHJ.

1.12.14 Any activity authorized by any permit issued under this *Code* shall be conducted by the permittee or the permittee's agents or employees in compliance with all requirements of this *Code* applicable thereto and in accordance with the approved plans and specifications.

1.12.15 No permit issued under this *Code* shall be interpreted to justify a violation of any provision of this *Code* or any other applicable law or regulation.

1.12.16 Any addition or alteration of approved plans or specifications shall be approved in advance by the AHJ, as evidenced by the issuance of a new or amended permit.

1.12.17* Permits shall be issued by the AHJ and shall bear the name and signature of the AHJ or that of the AHJ's designated representative. In addition, the permit shall indicate the following:

- (1) Operation or activities for which the permit is issued
- (2) Address or location where the operation or activity is to be conducted
- (3) Name and address of the permittee
- (4) Permit number and date of issuance
- (5) Period of validity of the permit
- (6) Inspection requirements and other permit conditions

1.12.18 Any application for, or acceptance of, any permit requested or issued pursuant to this *Code* shall constitute agreement and consent by the person making the application or accepting the permit to allow the AHJ to enter the premises at any reasonable time to conduct such inspections as required by this *Code*.

1.12.19 Revocation or Suspension of Permits.

1.12.19.1 The AHJ shall be permitted to revoke or suspend a permit or approval issued if any violation of this *Code* is found upon inspection or in case any false statements or misrepresentations have been submitted in the application or plans on which the permit or approval was based.

1.12.19.2 Revocation or suspension shall be constituted when the permittee is duly notified by the AHJ.

1.12.19.3 Any person who engages in any business, operation, or occupation, or uses any premises, after the permit issued therefore has been suspended or revoked pursuant to the provisions of this *Code*, and before such suspended permit has been reinstated or a new permit issued, shall be in violation of this *Code*.

1.12.20 Permits shall be required in accordance with Table 1.12.20(a) through Table 1.12.20(d).

Table 1.12.20(a) Permit Requirements

Operations and Materials	Permit Required	Cross Reference Section No.
Aerosol Products	To store or handle an aggregate quantity of Level 2 or Level 3 aerosol products in excess of 500 lb (226.8 kg)	61.1.2.3
Aircraft Fuel Servicing	To provide aircraft fuel servicing	42.4.1.2
Aircraft Hangars	For servicing or repairing aircraft	21.1.1
Aircraft Refueling Vehicles	To operate aircraft refueling vehicles	42.4.1.2
Airport Terminal Buildings	For construction and alteration	21.2.2.1
Ammonium Nitrate	For storage	65.10.2
Amusement Parks	For construction, alteration, or operation of amusement park fire protection safety features	10.15.1
Asbestos Removal	For the removal of asbestos	16.8.2
Automatic Fire Suppression Systems	For installation or modification	13.1.1.1; 50.4.2
Automobile Wrecking Yards	To operate automobile wrecking yards	22.2
Automotive Fuel Servicing	To provide automotive fuel servicing	42.2.2.1; 42.5.2.2.4; 42.5.3.1
Battery System	To install or operate stationary lead-acid battery systems having an electrolyte capacity of more than 100 gal (379 L) in sprinklered buildings or 50 gal (189 L) in nonsprinklered buildings	52.2
Candles, Open Flames, and Portable Cooking	To use in connection with assembly areas, dining areas of restaurants, or drinking establishments	17.3.4.6.1; 20.1.4.2.4.1
Carnivals and Fairs	To conduct a carnival or fair	10.15.1
Cellulose Nitrate Film	To store, handle, use, or display	20.15.6.2
Cellulose Nitrate Plastic	To store or handle more than 25 lb (11.3 kg)	43.1.1.4
Cleanrooms	For construction, alternation, or operation	23.3
Combustible Fibers	For storage or handling of combustible fibers greater than 100 ft ³ (2.8 m ³)	45.1.3
Combustible Material Storage	To store more than 2500 ft ³ (70.8 m ³) gross volume	10.19.2; 19.1.1; 31.2
Commercial Rubbish-Handling Operation	To operate	19.1.1

Table 1.12.20(a) *Continued*

Operations and Materials	Permit Required	Cross Reference Section No.
Compressed Gases	To store, use, or handle compressed gases in excess of the amounts listed in Table 1.12.20(b). When the compressed gases in use or storage exceed the amounts listed in Table 1.12.20(b), a permit is required to install, repair damage to, abandon, remove, place temporarily out of service, close, or substantially modify a compressed gas system. For additional permit requirements for compressed gases facility closures, see 63.1.2.	63.1.2
Consumer Fireworks (1.4G)	1. For the sale, on-site handling, and manufacture of consumer fireworks (1.4G) 2. For the storage of consumer fireworks (1.4G) in excess of the amount listed in Table 1.12.20(d)	65.5.2 65.11.3.2
Covered Mall Buildings	Annual requirement for facilities that utilize mall area for exhibits or displays with 4 conditions	20.1.4.5.1
Crop Maze	To operate a crop maze	10.15.11
Cryogenics	To produce, store, or handle cryogenics in excess of amounts listed in Table 1.12.20(c) <i>Exception: Where federal or state regulations apply or for fuel systems of a vehicle.</i>	63.1.2
Cutting and Welding Operation	For operations within a jurisdiction	17.3.4.6.1; 41.1.5; 41.3.1.2; 41.3.3.1
Display Fireworks (1.3G)	For possession, transportation, storage, manufacture, sale, handling, and discharge of display fireworks within the jurisdiction	65.2.3; 65.5.2
Drycleaning Plants	To engage in business of drycleaning or to change to a more hazardous cleaning solvent	24.2
Dust-Producing Operations	To operate a grain elevator, flour mill, starch mill, feed mill, or plant pulverizing aluminum, coal, cocoa, magnesium, spices, sugar, or other similar combustible material	40.2
Exhibit and Trade Shows	For operation of all exhibits and trade shows held within a jurisdiction	20.1.4.5.1
Explosives	Manufacture, sell, dispose, purchase, storage, use, possess, or transport of explosives within the jurisdiction. For additional permit requirements for blasting operations, see 65.9.2	65.9.2
Fire Alarm and Detection Systems and Related Equipment	Installation or modification to fire alarm and detection systems and related equipment ^a	13.1.1.1
Fire Hydrants and Water-Control Valves	To use a fire hydrant or operate a water-control valve intended for fire suppression purposes	13.1.1.1
Fire Pumps and Related Equipment	Installation of or modification to fire pumps, jockey pumps, controllers, and generators ^a	13.1.1.1
Flame Effects	Use of flame effects before an audience	65.4.2

(continues)

Table 1.12.20(a) *Continued*

Operations and Materials	Permit Required	Cross Reference Section No.
Flammable and Combustible Liquids	1. To use or operate, repair, or modify a pipeline for the on-site transportation of flammable or combustible liquids 2. To store, handle, or use Class I liquids in excess of 5 gal (18.9 L) in a building or in excess of 10 gal (37.9 L) outside of a building. <i>Exception to item (2): A permit is not required for the following:</i> <i>(a) The storage or use of Class I liquids in the fuel tank of a motor vehicle, aircraft, motorboat, mobile power plant, or mobile heating plant unless such storage in the opinion of the chief would cause an unsafe condition</i> <i>(b) The storage or use of paints, oils, varnishes, or similar flammable mixtures when such liquids are stored for maintenance, painting, or similar purposes for a period of not more than 30 days</i> 3. To store, handle, or use Class II or Class III-A liquids in excess of 25 gal (94.6 L) in a building or in excess of 60 gal (227.1 L) outside a building. <i>Exception to item (3): Fuel oil used in connection with oil-burning equipment</i> 4. To remove Class I or Class II liquids from an underground storage tank used for fueling motor vehicles by any means other than the approved, stationary on-site pumps normally used for dispensing purposes 5. To install, construct, alter, or operate tank vehicles, equipment, tanks, plants, terminals, wells, fuel-dispensing stations, refineries, distilleries, and similar facilities where flammable and combustible liquids are produced, processed, transported, stored, dispensed, or used 6. To install, alter, clean, repair, line with a protective coating, remove, abandon, place temporarily out of service, or otherwise dispose of a flammable or combustible liquid tank 7. To change the type of contents stored in a flammable or combustible liquid tank to a material other than those for which the tank was designed and constructed	66.1.5
Fruit Ripening	To operate a fruit-ripening process	60.1.6.1.1; 63.1.2
General Storage	To store materials indoors or outdoors, representing a broad range of combustibles, including plastics, rubber tires, and roll paper.	34.1.2
Grandstands, Bleachers, and Folding and Telescopic Seating	For construction, location, erection, or placement of grandstands, bleachers, and folding and telescopic seating	25.1.2
Hazardous Materials	To store, transport on site, dispense, use, or handle hazardous materials in excess of the amounts listed in Table 1.12.20(d) or to install, repair, abandon, remove, place temporarily out of service, close, or substantially modify a storage facility or other area regulated by Chapter 60 when the hazardous materials in use or storage exceed the amounts listed in Table 1.12.20(d)	60.1.6.1.1

Table 1.12.20(a) *Continued*

Operations and Materials	Permit Required	Cross Reference Section No.
High-Piled Combustible Storage	To use any building or portion thereof as a high-piled storage area exceeding 500 ft ² (46.45 m ²)	20.15.7.1.1
High-Powered Rocketry	For the manufacturing, sale, and use of high-powered rocketry	65.8.2
Hot Work Operations	To conduct hot work	17.3.4.6.1; 41.1.5; 41.3.3.1
Industrial Ovens and Furnaces	For operation of industrial ovens and furnaces covered by Chapter 51	51.1.2.1
Laboratories	For construction, alteration, or operation	26.3
Liquefied Petroleum Gases	1. To store, use, handle, or dispense LP-Gas of 125 gal (0.5 m ³) (water capacity) aggregate capacity or greater 2. To install or modify LP-Gas systems	42.5.2.2.4 69.1.2
Liquid- or Gas-Fueled Vehicles	To display, compete, or demonstrate liquid- or gas-fueled vehicles or equipment in assembly buildings	20.1.4.5.1
Lumberyards and Woodworking Plants	For storage of lumber exceeding 100,000 board ft	31.2
Marine Craft Fuel Servicing	To provide marine craft fuel servicing	42.3.1.4
Membrane Structures, Tents, and Canopies — Permanent	For construction, location, erection, or placement	25.1.2
Membrane Structures, Tents, and Canopies — Temporary	To erect or operate an air-supported temporary membrane structure or tent having an area in excess of 200 ft ² (18.6 m ²) or a canopy in excess of 400 ft ² (37.2 m ²) <i>Exception: Temporary membrane structures, tents, or canopy structures used exclusively for camping</i>	25.1.2
Motion Picture and Television Production Studio Soundstages and Approved Production Facilities	To design, construct, operate, and maintain soundstages and approved production facilities used in motion picture and television industry productions.	32.2
Oil- and Gas-Fueled Heating Appliances	To install oil- and gas-fired heating appliances	11.5.1.6
Open Burning	To conduct open burning. For additional permit requirements for open burning, see 10.11.1	10.11.1
Open Fires	For kindling or maintaining an open fire. For additional permit requirements for open fires, see 10.11.4 ^b	10.11.1
Organic Coatings	For operation and maintenance of a facility that manufactures organic coatings	43.1.1.4
Organic Peroxide Formulations	To store, transport on site, use, or handle materials in excess of amounts listed in Tables 1.12.20(c) and (d)	70.1.2
Outside Storage of Tires	To store more than 500 tires outside	33.1.2
Oxidizers	To store, transport on site, use, or handle materials in excess of amounts listed in Tables 1.12.20(c) and (d)	70.1.2
Parade Floats	To use a parade float for public performance, presentation, spectacle, entertainment, or parade	10.17.1

(continues)

Table 1.12.20(a) *Continued*

Operations and Materials	Permit Required	Cross Reference Section No.
Places of Assembly	To operate a place of assembly	10.15.1; 20.1.1
Pyrotechnic Articles	For the manufacture, storage, sale, or use of pyrotechnic articles within the jurisdiction	65.2.3; 65.3.3; 65.5.2; 65.11.3.2
Pyrotechnics Before a Proximate Audience	For the display and use of pyrotechnic materials before a proximate audience	65.3.3
Pyroxylin Plastics	For storage, handling, assembly, or manufacture of pyroxylin plastics	43.1.1.4
Private Fire Hydrants	For installation, modification, or removal from service of any private fire hydrants	13.1.1.1
Refrigeration Equipment	To install or operate a mechanical refrigeration unit or system regulated by this <i>Code</i>	53.4.1
Repair Garages and Service Stations	For operation of service stations and repair garages	30.1.1.3; 30.2.1.1
Rocketry Manufacturing	For the manufacturing of model rocket motors	65.7.2
Rooftop Heliports	For construction, modification, or operation of a rooftop heliport	21.3.2.1
Solvent Extraction	For storage, use, and handling	44.3
Spraying or Dipping of Flammable Finish	For installation or modification of any spray room, spray booth, or preparation work station, or to conduct a spraying or dipping operation utilizing flammable or combustible liquids or powder coating	43.1.1.4
Standpipe Systems	For installation, modification, or removal from service of any standpipe system ^a	13.1.1.1
Special Outdoor Events	For the location and operation of special outdoor events	10.15.1
Tar Kettles	To place a tar kettle, a permit must be obtained prior to the placement of a tar kettle	16.7.1.2; 17.3.4.6.1
Tire-Rebuilding Plants	For operation and maintenance of a tire-rebuilding plant	34.1.2
Tire Storage	To use an open area or portion thereof to store tires in excess of 500 tires	33.1.2; 34.1.2
Torch-Applied Roofing Operation	For the use of a torch for application of roofing materials	16.6.1
Wildland Fire-Prone Areas	For use of hazardous areas within fire-prone areas	17.3.2
Wood Products	To store wood chips, hogged material, wood by-products, lumber, or plywood in excess of 200 ft ³ (5.7 m ³)	31.2

^aMaintenance performed in accordance with this *Code* is not considered a modification and does not require a permit.

^bCooking and recreational fires are exempt and do not require a permit.

Table 1.12.20(b) Permit Amounts for Compressed Gases

Type of Gas	Amount*	
	ft ³	m ³
Corrosive	200	0.57
Flammable	200	0.57
Highly toxic	Any amount	
Inert and simple asphyxiant	6000	169.9
Oxidizing (including oxygen)	504	14.3
Pyrophoric	Any amount	
Toxic	Any amount	
Unstable (reactive)	Any amount	

Note: See Chapters 41, 42, 60, 63, and 69 for additional requirements and exceptions.

*Cubic feet measured at normal temperature and pressure.

Table 1.12.20(c) Permit Amounts for Cryogenics

Type of Cryogen	Inside Building (gal)	Outside Building (gal)
Corrosive	Over 1	Over 1
Flammable	Over 1	60
Toxic/Highly toxic	Over 1	Over 1
Nonflammable	60	500
Oxidizer (includes oxygen)	10	50

Note: See Chapter 63.

Table 1.12.20(d) Permit Amounts for Hazardous Materials

Type of Material	Amount	
	U.S. Unit	Metric Unit
Cellulose nitrate	25 lb	11.3 kg
Combustible fiber	100 ft ³	2.8 m ³
Combustible liquids	See Table 1.12.20(a)	
Consumer fireworks (1.4G)	10 lb	4.5 kg*
Corrosive gases	See Table 1.12.20(b)	
Corrosive liquids	55 gal	208 L
Corrosive solids	500 lb	227 kg
Cryogenics	See Table 1.12.20(c)	
Display fireworks (1.3G)	Any amount	
Explosives	Any amount	
Flammable gases	See Table 1.12.20(b)	
Flammable liquids	See Table 1.12.20(a)	
Flammable solids	100 lb	45.4 kg
Highly toxic gases	See Table 1.12.20(b)	
Highly toxic liquids	Any amount	
Highly toxic solids	Any amount	
LP-Gas	See Table 1.12.20(b)	
Nitrate film (cellulose)	Any amount	
Organic peroxides:	See Table 1.12.20(a)	

Table 1.12.20(d) Continued

Type of Material	Amount	
	U.S. Unit	Metric Unit
Class I	Any amount	
Class II	Any amount	
Class III	10 lb	4.5 kg
Class IV	20 lb	9 kg
Class V	Not required	
Unclassified	Any amount	
detonatable		
Oxidizing gases	See Table 1.12.20(b)	
Oxidizing liquids:	See Table 1.12.20(a)	
Class 4	Any amount	
Class 3	1 gal	3.8 L
Class 2	10 gal	38 L
Class 1	55 gal	208 L
Oxidizing solids:	See Table 1.12.20(a)	
Class 4	Any amount	
Class 3	10 lb	4.5 kg
Class 2	100 lb	45 kg
Class 1	500 lb	227 kg
Pyrophoric gases	See Table 1.12.20(b)	
Pyrophoric liquids	Any amount	
Pyrophoric solids	Any amount	
Toxic gases	See Table 1.12.20(b)	
Toxic liquids	10 gal	38 L
Toxic solids	100 lb	45 kg
Unstable (reactive) gases	See Table 1.12.20(b)	
Unstable (reactive) liquids:		
Class 4	Any amount	
Class 3	Any amount	
Class 2	5 gal	19 L
Class 1	10 gal	38 L
Unstable (reactive) solids:		
Class 4	Any amount	
Class 3	Any amount	
Class 2	50 lb	22.7 kg
Class 1	100 lb	45 kg
Water reactive liquids:		
Class 3	Any amount	
Class 2	5 gal	19 L
Class 1	10 gal	38 L
Water reactive solids:		
Class 3	Any amount	
Class 2	50 lb	22.7 kg
Class 1	100 lb	45 kg

Note: See Chapter 60 for additional requirements and exceptions.

*Unless the actual weight of the pyrotechnic composition of the consumer fireworks, 1.4G, is known, 25 percent of the gross weight of the fireworks, including packaging, is permitted to be used to determine the weight of the fireworks for the purpose of this table.

1.13 Certificates of Fitness.

1.13.1 Authorization. The AHJ shall have the authority to require certificates of fitness and collect fees for individuals or companies performing activities related to fire or life safety within the jurisdiction such as the following:

- (1) Use of explosive materials
- (2) Blasting or demolition operations
- (3) Fireworks displays
- (4) Inspection, servicing, or recharging of portable fire extinguishers
- (5) Installation, servicing, or recharging of fixed fire extinguishing systems
- (6) Installation or servicing of fire alarm or fire communication systems
- (7) Servicing of gas- or oil-burning heating systems
- (8) Chimney sweep operations
- (9) Installation, inspection, or servicing of range-hood systems

1.13.2 Where certificates of fitness are required, the AHJ shall be responsible for their issuance.

1.13.3 All applications for a certificate of fitness shall be filed with the AHJ on forms provided by the AHJ.

1.13.4 Every individual or company applying for a certificate of fitness shall furnish evidence to the AHJ of familiarity with the codes and standards for which the certificate of fitness is issued.

1.13.5 Investigation of Applicant.

1.13.5.1 The AHJ shall investigate every application for a certificate of fitness.

1.13.5.2 The investigation shall include an examination of the applicant's experience and training in the field of the certificate of fitness for which application has been made.

1.13.5.3 When the AHJ determines that an applicant is not fit to receive the certificate of fitness because of the applicant's inability to comply with the provisions of this *Code*, the AHJ shall refuse to issue the certificate of fitness.

1.13.5.4 If the refusal is based on the applicant's inability to pass an examination given to determine competency, the applicant shall not be permitted to apply again for the certificate of fitness within a 10-day period following the examination.

1.13.6 Certificates of fitness shall not be transferable.

1.13.7 Certificates of fitness shall be issued for the period of time as indicated on the certificate of fitness as determined by the AHJ, but such period of time shall not exceed 3 years.

1.13.8 Applications for renewal of a certificate of fitness shall be filed in the same manner as an application for an original certificate.

1.13.9 Each individual or company holding a certificate of fitness shall notify the AHJ in writing of any address change within 10 days after such change.

1.13.10 A certificate of fitness shall be in the form of an identification card. The card shall contain the following information:

- (1) Purpose for which the certificate of fitness is issued
- (2) Date of expiration
- (3) Information necessary to easily identify the individual to whom the certificate of fitness is issued

- (4) Signature of the individual to whom the certificate of fitness is issued
- (5) Name and signature of the AHJ or a designated representative
- (6) Statement printed thereon in bold type the following:

THIS CERTIFICATE IS NOT AN ENDORSEMENT OF THIS INDIVIDUAL OR COMPANY BY THE AUTHORITY HAVING JURISDICTION.

1.13.11 Any individual or company to whom a certificate of fitness has been granted shall, upon request, produce and show proper identification and the certificate of fitness to anyone for whom that individual seeks to render services or to the AHJ.

1.13.12 Revocation.

1.13.12.1 The AHJ shall be permitted to revoke or suspend a certificate of fitness issued if any violation of this *Code* is found upon inspection or where any false statements or misrepresentations are submitted in the application on which the approval was based.

1.13.12.2 Revocation or suspension shall be constituted when the certificate holder is duly notified by the AHJ.

1.13.12.3 Failure on the part of an individual to give such notification of a change of address required by 1.13.9 shall constitute grounds for revocation of the certificate of fitness.

1.14 Plan Review.

1.14.1* Where required by the AHJ for new construction, modification, or rehabilitation, construction documents and shop drawings shall be submitted, reviewed, and approved prior to the start of such work as provided in Section 1.14.

1.14.2 The applicant shall be responsible to ensure that the following conditions are met:

- (1) The construction documents include all of the fire protection requirements.
- (2) The shop drawings are correct and in compliance with the applicable codes and standards.
- (3) The contractor maintains an approved set of construction documents on site.

1.14.3 It shall be the responsibility of the AHJ to promulgate rules that cover the following:

- (1) Criteria to meet the requirements of Section 1.14
- (2) Review of documents and construction documents within established time frames for the purpose of acceptance or providing reasons for nonacceptance

1.14.4 Review and approval by the AHJ shall not relieve the applicant of the responsibility of compliance with this *Code*.

1.14.5 When required by the AHJ, revised construction documents or shop drawings shall be prepared and submitted for review and approval to illustrate corrections or modifications necessitated by field conditions or other revisions to approved plans.

1.15* Technical Assistance.

1.15.1 The AHJ shall be permitted to require a review by an independent third party with expertise in the matter to be reviewed at the submitter's expense.

1.15.2 The independent reviewer shall provide an evaluation and recommend necessary changes of the proposed design, operation, process, or new technology to the AHJ.

1.15.3 The AHJ shall be authorized to require design submittals to bear the stamp of a professional engineer.

1.15.4 The AHJ shall make the final determination as to whether the provisions of this *Code* have been met.

1.16 Notice of Violations and Penalties.

1.16.1 Whenever the AHJ determines violations of this *Code*, a written notice shall be issued to confirm such findings.

1.16.2 Serving Notice.

1.16.2.1 Any order or notice issued pursuant to this *Code* shall be served upon the owner, operator, occupant, or other person responsible for the condition or violation, either by personal service, by mail, or by delivering the same to, and leaving it with, some person of responsibility upon the premises.

1.16.2.2 For unattended or abandoned locations, a copy of such order or notice shall be posted on the premises in a conspicuous place at or near the entrance to such premises and the order or notice shall be mailed by registered or certified mail, with return receipt requested, to the last known address of the owner, occupant, or both or publication in a newspaper of general circulation wherein the subject premise is located.

1.16.3 Any person who mutilates, destroys, or removes posted orders or notices without the authorization of the AHJ shall be subject to the penalties established by the jurisdiction.

1.16.4 Any person who fails to comply with the provisions of this *Code* or who fails to carry out an order made pursuant of this *Code* or violates any condition attached to a permit, approval, or certificate shall be subject to the penalties established by the jurisdiction.

1.16.5 Failure to comply with the time limits of an abatement notice or other corrective notice issued by the AHJ shall result in each day that such violation continues being regarded as a new and separate offense.

Chapter 2 Referenced Publications

2.1 General. The documents or portions thereof listed in this chapter are referenced within this code and shall be considered part of the requirements of this document.

2.2 NFPA Publications. National Fire Protection Association, 1 Batterymarch Park, Quincy, MA 02169-7471.

NFPA 10, *Standard for Portable Fire Extinguishers*, 2002 edition.

NFPA 11, *Standard for Low-, Medium-, and High-Expansion Foam*, 2005 edition.

NFPA 12, *Standard on Carbon Dioxide Extinguishing Systems*, 2005 edition.

NFPA 12A, *Standard on Halon 1301 Fire Extinguishing Systems*, 2004 edition.

NFPA 13, *Standard for the Installation of Sprinkler Systems*, 2002 edition.

NFPA 13D, *Standard for the Installation of Sprinkler Systems in One- and Two-Family Dwellings and Manufactured Homes*, 2002 edition.

NFPA 13R, *Standard for the Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height*, 2002 edition.

NFPA 14, *Standard for the Installation of Standpipe and Hose Systems*, 2003 edition.

NFPA 15, *Standard for Water Spray Fixed Systems for Fire Protection*, 2001 edition.

NFPA 16, *Standard for the Installation of Foam-Water Sprinkler and Foam-Water Spray Systems*, 2003 edition.

NFPA 17, *Standard for Dry Chemical Extinguishing Systems*, 2002 edition.

NFPA 17A, *Standard for Wet Chemical Extinguishing Systems*, 2002 edition.

NFPA 20, *Standard for the Installation of Stationary Pumps for Fire Protection*, 2003 edition.

NFPA 22, *Standard for Water Tanks for Private Fire Protection*, 2003 edition.

NFPA 24, *Standard for the Installation of Private Fire Service Mains and Their Appurtenances*, 2002 edition.

NFPA 25, *Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems*, 2002 edition.

NFPA 30, *Flammable and Combustible Liquids Code*, 2003 edition.

NFPA 30A, *Code for Motor Fuel Dispensing Facilities and Repair Garages*, 2003 edition.

NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products*, 2002 edition.

NFPA 31, *Standard for the Installation of Oil-Burning Equipment*, 2001 edition.

NFPA 32, *Standard for Drycleaning Plants*, 2004 edition.

NFPA 33, *Standard for Spray Application Using Flammable or Combustible Materials*, 2003 edition.

NFPA 34, *Standard for Dipping and Coating Processes Using Flammable or Combustible Liquids*, 2003 edition.

NFPA 35, *Standard for the Manufacture of Organic Coatings*, 2005 edition.

NFPA 36, *Standard for Solvent Extraction Plants*, 2004 edition.

NFPA 37, *Standard for the Installation and Use of Stationary Combustion Engines and Gas Turbines*, 2002 edition.

NFPA 40, *Standard for the Storage and Handling of Cellulose Nitrate Film*, 2001 edition.

NFPA 45, *Standard on Fire Protection for Laboratories Using Chemicals*, 2004 edition.

NFPA 51, *Standard for the Design and Installation of Oxygen-Fuel Gas Systems for Welding, Cutting, and Allied Processes*, 2002 edition.

NFPA 51A, *Standard for Acetylene Cylinder Charging Plants*, 2001 edition.

NFPA 51B, *Standard for Fire Prevention During Welding, Cutting, and Other Hot Work*, 2003 edition.

NFPA 52, *Vehicular Fuel Systems Code*, 2006 edition.

NFPA 54, *National Fuel Gas Code*, 2006 edition.

NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*, 2005 edition.

NFPA 58, *Liquefied Petroleum Gas Code*, 2004 edition.

NFPA 59, *Utility LP-Gas Plant Code*, 2004 edition.

NFPA 59A, *Standard for the Production, Storage, and Handling of Liquefied Natural Gas (LNG)*, 2006 edition.

NFPA 61, *Standard for the Prevention of Fires and Dust Explosions in Agricultural and Food Processing Facilities*, 2002 edition.

NFPA 69, *Standard on Explosion Prevention Systems*, 2002 edition.

NFPA 70, *National Electrical Code*®, 2005 edition.

NFPA 72®, *National Fire Alarm Code*®, 2002 edition.

NFPA 80, *Standard for Fire Doors and Fire Windows*, 1999 edition.

NFPA 82, *Standard on Incinerators and Waste and Linen Handling Systems and Equipment*, 2004 edition.

NFPA 85, *Boiler and Combustion Systems Hazards Code*, 2004 edition.

NFPA 86, *Standard for Ovens and Furnaces*, 2003 edition.

NFPA 88A, *Standard for Parking Structures*, 2002 edition.

NFPA 90A, *Standard for the Installation of Air-Conditioning and Ventilating Systems*, 2002 edition.

NFPA 90B, *Standard for the Installation of Warm Air Heating and Air-Conditioning Systems*, 2006 edition.

NFPA 91, *Standard for Exhaust Systems for Air Conveying of Vapors, Gases, Mists, and Noncombustible Particulate Solids*, 2004 edition.

NFPA 96, *Standard for Ventilation Control and Fire Protection of Commercial Cooking Operations*, 2004 edition.

NFPA 99, *Standard for Health Care Facilities*, 2005 edition.

NFPA 101®, *Life Safety Code®*, 2006 edition.

NFPA 102, *Standard for Grandstands, Folding and Telescopic Seating, Tents, and Membrane Structures*, 1995 edition.

NFPA 110, *Standard for Emergency and Standby Power Systems*, 2005 edition.

NFPA 111, *Standard on Stored Electrical Energy Emergency and Standby Power Systems*, 2005 edition.

NFPA 120, *Standard for Fire Prevention and Control in Coal Mines*, 2004 edition.

NFPA 140, *Standard on Motion Picture and Television Production Studio Soundstages and Approved Production Facilities*, 2004 edition.

NFPA 160, *Standard for the Use of Flame Effects Before an Audience*, 2006 edition.

NFPA 204, *Standard for Smoke and Heat Venting*, 2002 edition.

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Chapter 3 Definitions

3.1 General. The definitions contained in this chapter shall apply to the terms used in this *Code*. Where terms are not defined in this chapter or within another chapter, they shall be defined using their ordinarily accepted meanings within the context in which they are used. *Merriam-Webster's Collegiate Dictionary*, 11th edition, shall be the source for the ordinarily accepted meaning.

3.2 NFPA Official Definitions.

3.2.1* Approved. Acceptable to the authority having jurisdiction.

3.2.2* Authority Having Jurisdiction (AHJ). An organization, office, or individual responsible for enforcing the requirements of a code or standard, or for approving equipment, materials, an installation, or a procedure.

3.2.3* Code. A standard that is an extensive compilation of provisions covering broad subject matter or that is suitable for adoption into law independently of other codes and standards.

3.2.4 Guide. A document that is advisory or informative in nature and that contains only nonmandatory provisions. A guide may contain mandatory statements such as when a guide can be used, but the document as a whole is not suitable for adoption into law.

3.2.5 Labeled. Equipment or materials to which has been attached a label, symbol, or other identifying mark of an organization that is acceptable to the authority having jurisdiction and concerned with product evaluation, that maintains periodic inspection of production of labeled equipment or materials, and by whose labeling the manufacturer indicates compliance with appropriate standards or performance in a specified manner.

3.2.6* Listed. Equipment, materials, or services included in a list published by an organization that is acceptable to the authority having jurisdiction and concerned with evaluation of products or services, that maintains periodic inspection of production of listed equipment or materials or periodic evaluation of services, and whose listing states that either the equipment, material, or service meets appropriate designated standards or has been tested and found suitable for a specified purpose.

3.2.7 Recommended Practice. A document that is similar in content and structure to a code or standard but that contains only nonmandatory provisions using the word “should” to indicate recommendations in the body of the text.

3.2.8 Shall. Indicates a mandatory requirement.

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

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

3.3 General Definitions.

3.3.1* Absolute Pressure. Pressure based on a zero reference point, the perfect vacuum. [55, 2005]

3.3.2 Access Box. An approved secure box, accessible by the authority having jurisdiction's master key or control, containing entrance keys or other devices to gain access to a structure or area.

3.3.3 Addition. An increase in the building area, aggregate floor area, height or number of stories of a structure. [ASCE 7:9.2.1]

3.3.4* Aerosol. A product that is dispensed from an aerosol container by a propellant. [30B, 2002]

3.3.5 Airport (Aerodrome). An area on land or water that is used or intended to be used for the landing and takeoff of aircraft and includes buildings and facilities. [402, 2002]

3.3.6 Airport Ramp. Any outdoor area, including aprons and hardstands, where aircraft can be positioned, stored, serviced, or maintained, irrespective of the nature of the surface of the area. [415, 2002]

3.3.7* Aisle Width (Storage Rack). The horizontal dimension between the face of the loads in racks under consideration. [13, 2002]

3.3.8 Alarm. A warning of danger.

3.3.9 Alarm Signal. See 3.3.208.1.

3.3.10 Alleyway. An accessible clear space between storage piles or groups of piles suitable for housekeeping operations, visual inspection of piling areas, and initial fire-fighting operations.

3.3.11 Alternative. A system, condition, arrangement, material, or equipment submitted for approval to the authority having jurisdiction and the fire chief as a substitute for a code requirement. [1141, 2003]

3.3.12 ANSI/ASME. The designation for American National Standards Institute publication sponsored and published by the American Society of Mechanical Engineers.

3.3.13 Area.

3.3.13.1 Back Stock Area. The area of a mercantile occupancy that is physically separated from the sales area and not intended to be accessible to the public. [30B, 2002]

3.3.13.2 Consumer Fireworks Retail Sales (CFRS) Area. The portion of a consumer fireworks retail sales facility or store,

including the immediately adjacent aisles, where consumer fireworks are located for the purpose of retail display and sale to the public. [1124, 2006]

3.3.13.3 Control Area. A designated area, either indoors or outdoors, within which hazardous materials are allowed to be stored, used, handled, or dispensed in quantities not exceeding the maximum allowable quantity (MAQ).

3.3.13.4 Fire Area. An area of a building separated from the remainder of the building by construction having a fire resistance of at least 1 hour and having all communicating openings properly protected by an assembly having a fire resistance rating of at least 1 hour. [30, 2003]

3.3.13.5 Indoor Area. An area that is within a building or structure having overhead cover, other than a structure qualifying as "weather protection" in accordance with 6.5.2 of NFPA 55, *Standard for the Storage, Use, and Handling of Compressed Gases and Cryogenic Fluids in Portable and Stationary Containers, Cylinders, and Tanks*. (See also 3.3.13.8, *Outdoor Area*.) [55, 2005]

3.3.13.6 Inside Liquid Storage Area. A room or building used for the storage of liquids in containers or portable tanks, separated from other types of occupancies. [30, 2003]

3.3.13.7 Organic Peroxide Storage Area. An area used for the storage of organic peroxide formulations. [432, 2002]

3.3.13.8 Outdoor Area. An area that is either outside the confines of a building, or an area sheltered from the elements by overhead cover, that is protected from weather exposure by an exterior wall that obstructs not more than 25 percent of the building boundary.

3.3.13.9 Sales Display Area. The area of a mercantile occupancy that is open to the public for the purpose of viewing and purchasing goods, wares, and merchandise. Individuals are free to circulate among the items, which are typically displayed on shelves, racks, or on the floor. [30B, 2002]

3.3.13.10 Smoking Area. A designated area where smoking is permitted within a premises in which smoking is otherwise generally prohibited.

3.3.13.11* Spray Area. Any area in which dangerous quantities of flammable or combustible vapors, mists, residues, dusts, or deposits are present due to the operation of spray processes. It can be either enclosed or unenclosed and includes: (a) any area in the direct path of a spray application process; (b) the interior of any exhaust plenum and any exhaust duct leading from the spray process; (c) the interior of any limited finishing workstation, spray booth, or spray room as herein defined; (d) the interior of any air recirculation particulate filter, solvent concentrator unit, solvent distillation (recovery) unit, or recirculation air supply unit. [33, 2003]

3.3.14 ASME. American Society of Mechanical Engineers. [58, 2004]

3.3.15 ASME Container (or Tank). See 3.3.65.1.

3.3.16* Available Height for Storage. The maximum height at which commodities can be stored above the floor and still maintain adequate clearance from structural members and the required clearance below sprinklers. [13, 2002]

3.3.17* Baled Cotton. A natural seed fiber wrapped and secured in industry-accepted materials, usually consisting of bur-

lap, woven polypropylene, or sheet polyethylene, and secured with steel, synthetic, or wire bands, or wire; also includes lint-ers (lint removed from the cottonseed) and motes (residual materials from the ginning process).

3.3.17.1 Block. A basic yard storage unit for baled cotton comprising multiple-row storage with clear spaces on all sides.

3.3.17.2* Densely Packed Baled Cotton. Cotton, made into banded bales, with a packing density of at least 22 lb/ft³ (360 kg/m³), and dimensions complying with the following: a length of 55 in. (ca. 1400 mm ± 20 mm), a width of 21 in. (ca. 530 mm ± 20 mm) and a height of 27.6 in. to 35.4 in. (700 mm to 900 mm).

3.3.17.3 Fire-Packed Baled Cotton. A cotton bale within which a fire has been packed as a result of a process in which ginning is the most frequent cause.

3.3.17.4 Naked Cotton Bale. An unwrapped cotton bale secured with wire or steel straps.

3.3.18 Barrel (bbl). A unit of volume used in the petroleum industry that is equal to 42 U.S. gal (159 L or 0.159 m³). [30, 2003]

3.3.19 Barricade (Explosives or Fireworks). A natural or artificial barrier that effectively screens a magazine, building, railway, or highway from the effects of an explosion in a magazine or building containing explosives. [1124, 2006]

3.3.19.1 Artificial Barricade (Explosives or Fireworks). An artificial mound or revetted wall of earth of a minimum thickness of 3 ft (0.9 m). [1124, 2006]

3.3.19.2 Natural Barricade (Explosives or Fireworks). A natural outdoor feature(s), such as hills or trees, with a density sufficient to prevent surrounding exposures that require protection from being seen from a magazine or building containing explosives when the trees are bare of leaves. [1124, 2006]

3.3.20 Basement. Story of a building wholly below grade or partly below and partly above grade, located so that the vertical distance from grade to the floor below is greater than the vertical distance from grade to the floor above. [5000, 2006]

3.3.21 Battery (Lead-Acid).

3.3.21.1* Valve-Regulated (VRLA). A lead-acid battery consisting of sealed cells furnished with a valve that opens to vent the battery whenever the internal pressure of the battery exceeds the ambient pressure by a set amount.

3.3.21.2* Vented (Flooded). A lead-acid battery consisting of cells that have electrodes immersed in liquid electrolyte.

3.3.22 Battery System (Lead-Acid). A system that consists of these interconnected subsystems: (1) lead-acid batteries; (2) battery chargers; and (3) a collection of rectifiers, inverters, converters, and associated electrical equipment as required for a particular application.

3.3.23 Block. See 3.3.17.1.

3.3.24 Board of Appeals. A group of persons appointed by the governing body of the jurisdiction adopting this *Code* for the purpose of hearing and adjudicating differences of opinion between the authority having jurisdiction and the citizenry in the interpretation, application, and enforcement of this *Code*.

3.3.25* Boiling Point. The temperature at which the vapor pressure of a liquid equals the surrounding atmospheric pressure. For purposes of defining the boiling point, atmospheric pressure shall be considered to be 14.7 psia (760 mm Hg). For mixtures that do not have a constant boiling point, the 20 percent evaporated point of a distillation performed in accordance with ASTM D 86, *Standard Method of Test for Distillation of Petroleum Products*, shall be considered to be the boiling point. [30, 2003]

3.3.26* Boil-Over. An event in the burning of certain oils in an open-top tank when, after a long period of quiescent burning, there is a sudden increase in fire intensity associated with expulsion of burning oil from the tank. [30, 2003]

3.3.27* Building. Any structure used or intended for supporting or sheltering any use or occupancy. [101, 2006]

3.3.27.1* Airport Terminal Building. A structure used primarily for air passenger enplaning or deplaning, including ticket sales, flight information, baggage handling, and other necessary functions in connection with air transport operations. This term includes any extensions and satellite buildings used for passenger handling or aircraft flight service functions. Aircraft loading walkways and "mobile lounges" are excluded. [415, 2002]

3.3.27.2 Apartment Building. See 3.3.165.2.

3.3.27.3 Attached Building. A building having only one common wall with another building having other types of occupancies. [30, 2003]

3.3.27.4 Bulk Merchandising Retail Building. See 3.3.165.4.

3.3.27.5* Existing Building. A building erected or officially authorized prior to the effective date of the adoption of this edition of the *Code* by the agency or jurisdiction. [101, 2006]

3.3.27.6* High-Rise Building. A building where the floor of an occupiable story is greater than 75 ft (23 m) above the lowest level of fire department vehicle access. [5000, 2006]

3.3.27.7* Important Building. A building that is considered not expendable in an exposure fire. [30, 2003]

3.3.27.8 Mini-Storage Building. See 3.3.165.25.1.

3.3.27.9 Private Building. A building or the portion of a building that normally is not frequented by or open to the public.

3.3.27.10 Satellite. A structure that can be adjacent to but separated from the airport terminal building, accessible aboveground or through subway passages, and used to provide flight service operations, such as passenger check-in, waiting rooms, food service, enplaning or deplaning, etc. [415, 2002]

3.3.27.11 Storage Tank Building. A three-dimensional space that is enclosed by a roof and a wall that covers more than one-half of the possible area of the sides of the space, is of sufficient size to allow entry by personnel, will likely limit the dissipation of heat or dispersion of vapors, and restricts access for fire fighting. [30, 2003]

3.3.28 Bulk Oxygen System. See 3.3.233.2.

3.3.29 Bulk Plant or Terminal. That portion of a property where liquids are received by tank vessel, pipelines, tank car, or tank vehicle and are stored or blended in bulk for the pur-

pose of distributing such liquids by tank vessel, pipeline, tank car, tank vehicle, portable tank, or container. [30, 2003]

3.3.30 Burn-It. A fire-fighting strategy that allows for the free-burn of a tire fire.

3.3.31 Bury-It. A fire-fighting strategy in which a tire pile is buried with soil, sand, gravel, cement dust, or other cover material.

3.3.32 Certificate of Fitness. A written document issued by the authority having jurisdiction to any person for the purpose of granting permission to such person to conduct or engage in any operation or act for which certification is required.

3.3.33 CFR. The Code of Federal Regulations of the United States Government.

3.3.34 CGA. Compressed Gas Association.

3.3.35 Chemical Heat of Combustion (Hc). The amount of heat released, in Btu/lb (kJ/g), when a substance is oxidized to yield stable end products, including water as a vapor, as measured under actual fire conditions in a normal ambient (air) atmosphere. [30B, 2002]

3.3.36 Chemical Name. The scientific designation of a chemical in accordance with the nomenclature system developed by the International Union of Pure and Applied Chemistry or the Chemical Abstracts Service rules of nomenclature, or a name that clearly identifies a chemical for the purpose of conducting an evaluation.

3.3.37 Chemical Plant. A large integrated plant or that portion of such a plant, other than a refinery or distillery, where liquids are produced by chemical reactions or used in chemical reactions. [30, 2003]

3.3.38* Chip. A wood chip of various species used in the manufacture of pulp.

3.3.39 Classification of Occupancy Hazards for Portable Fire Extinguishers.

3.3.39.1 Extra (High) Hazard. Extra hazard occupancies are locations where the total amount of Class A combustibles and Class B flammables present, in storage, production, use, finished product, or combination thereof, is over and above those expected in occupancies classed as ordinary (moderate) hazard. These occupancies could consist of woodworking; vehicle repair; aircraft and boat servicing; cooking areas; individual product display showrooms; product convention center displays; and storage and manufacturing processes such as painting, dipping, and coating, including flammable liquid handling. Also included is warehousing of or in-process storage of other than Class I and Class II commodities. [10, 2002]

3.3.39.2 Light (Low) Hazard. Light hazard occupancies are locations where the total amount of Class A combustible materials, including furnishings, decorations, and contents, is of minor quantity. This can include some buildings or rooms occupied as offices, classrooms, churches, assembly halls, guest room areas of hotels/motels, and so forth. This classification anticipates that the majority of content items are either noncombustible or so arranged that a fire is not likely to spread rapidly. Small amounts of Class B flammables used for duplicating machines, art departments, and so forth, are included, provided that they are kept in closed containers and safely stored. [10, 2002]

3.3.39.3 Ordinary (Moderate) Hazard. Ordinary hazard occupancies are locations where the total amount of Class A combustibles and Class B flammables are present in greater amounts than expected under light (low) hazard occupancies. These occupancies could consist of dining areas, mercantile shops and allied storage, light manufacturing, research operations, auto showrooms, parking garages, workshop or support service areas of light (low) hazard occupancies, and warehouses containing Class I or Class II commodities as defined by NFPA 13, *Standard for the Installation of Sprinkler Systems*. [10, 2002]

3.3.40 Cleanroom. A room in which the concentration of airborne particles is controlled to specified limits, including areas below the raised floor and above the ceiling grid if these areas are part of the air path and within the rated construction. [5000, 2006]

3.3.41 Clean Zone. A defined space in which the concentration of airborne particles is controlled to specified limits. [318, 2006]

3.3.42 Clear Space. An area free of combustible materials but that can contain noncombustible materials that cannot transmit an exposure fire.

3.3.43 Closed System Use. See 3.3.244.1.

3.3.44 Clothes Dryer. A device used to dry wet laundry by means of heat derived from the combustion of fuel or from electric heating elements. [211, 2003]

3.3.45 Code.

3.3.45.1 Building Code. The building code referenced in Section 2.2.

3.3.45.2 Electrical Code. The electrical code referenced in Section 2.2.

3.3.45.3 Mechanical Code. The mechanical code referenced in Section 2.2.

3.3.45.4 Plumbing Code. The plumbing code referenced in Section 2.2.

3.3.46 Cold Deck. A single ranked pile of logs with individual logs of regular or irregular length usually 20 ft to 50 ft (6.1 m to 15.2 m) long, but greater than 8 ft (2.4 m) long.

3.3.47 Column (Paper). A single vertical stack of rolls of paper.

3.3.48 Combustible (Material). A material that, in the form in which it is used and under the conditions anticipated, will ignite and burn; a material that does not meet the definition of noncombustible or limited-combustible. [101, 2006]

3.3.49* Combustible Dust. A combustible particulate solid that presents a fire or deflagration hazard when suspended in air or some other oxidizing medium over a range of concentrations, regardless of particle size or shape. [654, 2006]

3.3.50* Combustible Fiber. Any material in a fibrous or shredded form that readily ignites when heat sources are present.

3.3.51 Combustible Liquid. See 3.3.148.1.

3.3.52 Combustible Particulate Solid. See 3.3.216.1.

3.3.53 Combustible Refuse. All combustible or loose rubbish, litter, or waste materials generated by an occupancy that are refused, rejected, or considered worthless and are disposed of by incineration on the premises where generated or periodically transported from the premises.

3.3.54* Combustible Waste. Combustible or loose waste material that is generated by an establishment or process and, if salvageable, is retained for scrap or reprocessing on the premises where generated or transported to a plant for processing.

3.3.55 Combustion. A chemical process of oxidation that occurs at a rate fast enough to produce heat and usually light in the form of either a glow or flame.

3.3.56 Commodity. Combinations of products, packing material, and container upon which the commodity classification is based. [13, 2002]

3.3.57* Common Path of Travel. The portion of exit access that must be traversed before two separate and distinct paths of travel to two exits are available. [101, 2006]

3.3.58 Compartment.

3.3.58.1* Fire Compartment. A space within a building that is enclosed by fire barriers on all sides, including the top and bottom. [101, 2006]

3.3.58.2* Smoke Compartment. A space within a building enclosed by smoke barriers on all sides, including the top and bottom. [101, 2006]

3.3.59 Condition, Existing. See 3.3.91.

3.3.60 Construction Documents. Documents that consist of scaled design drawings and specifications for the purpose of construction of new facilities or modification to existing facilities. (See also 3.3.207, *Shop Drawings*.)

3.3.61 Consumer Fireworks. See 3.3.111.1.

3.3.62 Consumer Fireworks Retail Sales Area. See 3.3.13.2.

3.3.63 Consumer Fireworks Retail Sales Facility (CFRS Facility). A permanent or temporary building or structure, CFRS stand, tent, canopy, or membrane structure that is used primarily for the retail display and sale of consumer fireworks to the public. [1124, 2006]

3.3.64* Consumer Fireworks Retail Sales (CFRS) Stand. A temporary or permanent building or structure that has a floor area not greater than 800 ft² (74 m²), other than tents, canopies, or membrane structures, that is used primarily for the retail display and sale of consumer fireworks to the public. [1124, 2006]

3.3.65 Container. A vessel, including cylinders, tanks, portable tanks, and cargo tanks, used for transporting or storing materials.

3.3.65.1 ASME Container. A container constructed in accordance with the ASME Code. [58, 2004]

3.3.65.2 Closed Container. A container as herein defined, so sealed by means of a lid or other device that neither liquid nor vapor will escape from it at ordinary temperatures. [30A, 2003]

3.3.65.3 Compressed Gas Container. A pressure vessel designed to hold compressed gas at an absolute pressure greater than 1 atmosphere at 68°F (20°C) that includes cylinders, containers, and tanks. [55, 2005]

3.3.65.4 Container (Flammable or Combustible Liquid). Any vessel of 119 gal (450 L) or less capacity used for transporting or storing liquids. [30, 2003]

3.3.65.5 Cryogenic Fluids Container. A cryogenic vessel used for transportation, handling, or storage.

3.3.65.6 LP-Gas Container. A vessel, including cylinders, tanks, portable tanks, and cargo tanks, used for the transporting or storing of LP-Gases. [58, 2004]

3.3.66 Control Area. See 3.3.13.3.

3.3.67* Conventional Pallets. A material-handling aid designed to support a unit load with openings to provide access for material-handling devices. [13, 2002]

3.3.68 Cooking Fire. The noncommercial, residential burning of materials not exceeding 3 ft (0.9 m) in diameter and 2 ft (0.6 m) in height, other than rubbish in which the fuel burned is contained in an outdoor fireplace, a barbecue grill, or a barbecue pit for the purpose of preparing food.

3.3.69 Cordwood. Logs 8 ft (2.4 m) or less in length customarily intended for pulpwood or fuel uses.

3.3.70 Core. The central tube around which paper is wound to form a roll. [13, 2002]

3.3.71* Corrosive. A chemical that causes visible destruction of, or irreversible alterations in, materials by chemical action at the site of contact.

3.3.72* Covered Fuse. A fuse or designed point of ignition that is protected against accidental ignition by contact with a spark, smoldering items, or small open flame. [1124, 2006]

3.3.73 Crude Petroleum. Hydrocarbon mixtures that have a flash point below 150°F (65.6°C) and that have not been processed in a refinery. [30, 2003]

3.3.74 Cryogenic Fluid. A fluid with a boiling point lower than -130°F (-90°C) at an absolute pressure of 14.7 psia (101.325 kPa). [55, 2005]

3.3.75* Cultural Properties. Buildings, structures, or sites, or portions thereof, that are culturally significant, or that house culturally significant collections. [914, 2001]

3.3.76 Cylinder. A pressure vessel designed for pressures higher than 40 psia (276 kPa) and having a circular cross-section. It does not include a portable tank, multiunit tank car tank, cargo tank, or tank car. [55, 2005]

3.3.76.1 Cylinder Containment Vessel. A gastight recovery vessel designed so that a leaking compressed gas container can be placed within its confines, thereby encapsulating the leaking container. [55, 2005]

3.3.77 Deflagration. Propagation of a combustion zone at a velocity that is less than the speed of sound in the unreacted medium. [68, 2002]

3.3.78 Detectors.

3.3.78.1 Air Sampling-Type Detector. A detector that consists of a piping or tubing distribution network that runs from the detector to the area(s) to be protected. An aspiration fan in the detector housing draws air from the protected area back to the detector through air sampling ports, piping, or tubing. At the detector, the air is analyzed for fire products.

3.3.78.2* Fixed-Temperature Detector. A device that responds when its operating element becomes heated to a predetermined level. [72, 2002]

3.3.78.3 Heat Detector. A fire detector that detects either abnormally high temperature or rate of temperature rise, or both. [72, 2002]

3.3.78.4* Line-Type Detector. A device in which detection is continuous along a path. [72, 2002]

3.3.78.5 Smoke Detector. A device that detects visible or invisible particles of combustion. [72, 2002]

3.3.78.6 Spot-Type Detector. A detector in which the detecting element is concentrated at a particular location. Typical examples are bimetallic detectors, fusible alloy detectors, certain pneumatic rate-of-rise detectors, certain smoke detectors, and thermoelectric detectors. [72, 2002]

3.3.79 Detonation. Propagation of a combustion zone at a velocity that is greater than the speed of sound in the unreacted medium. [68, 2002]

3.3.80 Distillery. A plant or that portion of a plant where liquids produced by fermentation are concentrated and where the concentrated products are also mixed, stored, or packaged. [30, 2003]

3.3.81 Distributor. A business engaged in the sale or resale, or both of compressed gases or cryogenic fluids, or both. [55, 2005]

3.3.82 DOT. U.S. Department of Transportation.

3.3.83 Driveway. A clear space suitable for fire-fighting operations by motorized fire apparatus.

3.3.84 Dwelling Unit. One or more rooms arranged for complete, independent housekeeping purposes, with space for eating, living, and sleeping; facilities for cooking; and provisions for sanitation. [5000, 2006]

3.3.84.1 One- and Two-Family Dwelling Unit. See 3.3.165.19.1.

3.3.85 Emergency. A fire, explosion, or hazardous condition that poses an immediate threat to the safety of life or damage to property.

3.3.86 Emergency Relief Venting. An opening, construction method, or device that will automatically relieve excessive internal pressure due to an exposure fire. [30, 2003]

3.3.87 Excess Flow Control. A fail-safe system or approved means designed to shut off flow due to a rupture in pressurized piping systems. [55, 2005]

3.3.88 Excess Flow Valve. A valve inserted into a compressed gas cylinder, portable tank, or stationary tank that is designed to positively shut off the flow of gas in the event that its predetermined flow is exceeded.

3.3.89* Exhausted Enclosure. An appliance or piece of equipment that consists of a top, a back, and two sides providing a means of local exhaust for capturing gases, fumes, vapors, and mists. [5000, 2006]

3.3.90* Existing. That which is already in existence on the date this edition of the *Code* goes into effect. [101, 2006]

3.3.91 Existing Condition. Any situation, circumstance, or physical makeup of any structure, premise, or process that was ongoing or in effect prior to the adoption of this *Code*. [1141, 2003]

3.3.92* Exit. That portion of a means of egress that is separated from all other spaces of a building or structure by con-

struction or equipment as required to provide a protected way of travel to the exit discharge. [101, 2006]

3.3.92.1* Horizontal Exit. A way of passage from one building to an area of refuge in another building on approximately the same level, or a way of passage through or around a fire barrier to an area of refuge on approximately the same level in the same building that affords safety from fire and smoke originating from the area of incidence and areas communicating therewith. [101, 2006]

3.3.93 Exit Access. That portion of a means of egress that leads to an exit. [101, 2006]

3.3.94 Exit Discharge. That portion of a means of egress between the termination of an exit and a public way. [101, 2006]

3.3.95 Explosion. The bursting or rupture of an enclosure or a container due to the development of internal pressure from a deflagration. [69, 2002]

3.3.96* Explosive Material. Any chemical compound, mixture, or device, the primary or common purpose of which is to function by explosion. [5000, 2006]

3.3.97 Facility. As applied to access and water supply, a structure or use in a fixed location including exterior storage, use, and handling areas that relates to the occupancies and operations covered by this *Code*.

3.3.97.1 Hazardous Material Storage Facility. See 3.3.131.

3.3.97.2 Limited Care Facility. See 3.3.165.15.

3.3.97.3 Motor Fuel Dispensing Facility. See 3.3.165.24.

3.3.97.3.1 Fleet Vehicle Motor Fuel Dispensing Facility. See 3.3.165.24.1.

3.3.97.3.2 Marine Motor Fuel Dispensing Facility. See 3.3.165.24.2.

3.3.97.3.3 Motor Fuel Dispensing Facility Located Inside a Building. See 3.3.165.24.3.

3.3.98 Fines (Wood). Small pieces or splinters of wood by-products that can pass through a 0.25 in. (6.4 mm) screen.

3.3.99 Fire.

3.3.99.1 Class A Fires. Fires in ordinary combustible materials, such as wood, cloth, paper, rubber, and many plastics. [10, 2002]

3.3.99.2 Class B Fires. Fires in flammable liquids, combustible liquids, petroleum greases, tars, oils, oil-based paints, solvents, lacquers, alcohols, and flammable gases. [10, 2002]

3.3.99.3 Class C Fires. Fires that involve energized electrical equipment. [10, 2002]

3.3.99.4 Class D Fires. Fires in combustible metals, such as magnesium, titanium, zirconium, sodium, lithium, and potassium. [10, 2002]

3.3.99.5 Class K Fires. Fires in cooking appliances that involve combustible cooking media (vegetable or animal oils and fats). [10, 2002]

3.3.100 Fire, Recreational. See 3.3.197.

3.3.101 Fire Alarm System. See 3.3.233.8.

3.3.102 Fire Compartment. See 3.3.58.1.

3.3.103 Fire Door Assembly. Any combination of a fire door, a frame, hardware, and other accessories that together provide a specific degree of fire protection to the opening. [80, 1999]

3.3.104 Fire Hazard. Any situation, process, material, or condition that, on the basis of applicable data, can cause a fire or explosion or that can provide a ready fuel supply to augment the spread or intensity of a fire or explosion, all of which pose a threat to life or property. [914, 2001]

3.3.105* Fire Hydrant. A valved connection on a water supply system having one or more outlets and that is used to supply hose and fire department pumps with water. [1141, 2003]

3.3.106 Fire Department Access Road. The road or other means developed to allow access and operational setup for fire-fighting and rescue apparatus.

3.3.107* Fire Lane. A fire department access road, which is marked with approved signs or other approved notices.

3.3.108 Fire Point. The lowest temperature at which a liquid will ignite and achieve sustained burning when exposed to a test flame in accordance with ASTM D 92, *Standard Test Method for Flash and Fire Points by Cleveland Open Cup*. [30, 2003]

3.3.109 Fire Retardant. A liquid, solid, or gas that tends to inhibit combustion when applied on, mixed in, or combined with combustible materials.

3.3.110 Fire Watch. The assignment of a person or persons to an area for the express purpose of notifying the fire department, the building occupants, or both of an emergency; preventing a fire from occurring; extinguishing small fires; or protecting the public from fire or life safety dangers.

3.3.111* Fireworks. Any composition or device for the purpose of producing a visible or an audible effect for entertainment purposes by combustion, deflagration, or detonation, and that meets the definition of *Consumer Fireworks* or *Display Fireworks* as set forth in this *Code*. [1124, 2006]

3.3.111.1* Consumer Fireworks. Small fireworks devices containing restricted amounts of pyrotechnic composition, designed primarily to produce visible or audible effects by combustion, that comply with the construction, chemical composition, and labeling regulations of the U.S. Consumer Product Safety Commission (CPSC), as set forth in CPSC 16 CFR 1500 and 1507, 49 CFR 172, and APA Standard 87-1, *Standard for the Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics*. [1124, 2006]

3.3.111.2* Display Fireworks. Large fireworks devices that are explosive materials intended for use in fireworks displays and designed to produce visible or audible effects by combustion, deflagration, or detonation, as set forth in CPSC 16 CFR 1500 and 1507, 49 CFR 172, and APA Standard 87-1, *Standard for the Construction and Approval for Transportation of Fireworks, Novelties, and Theatrical Pyrotechnics*. [1124, 2006]

3.3.112 Flame Break. A solid material without holes or other openings, used to retard the spread of flame. [1124, 2006]

3.3.113* Flame Spread. The propagation of flame over a surface. [101, 2006]

3.3.114 Flame Spread Index. A comparative measure, expressed as a dimensionless number, derived from visual measurements of the spread of flame versus time for a material tested in accordance with NFPA 255, *Standard Method of Test of Surface Burning Characteristics of Building Materials*, ASTM E 84, *Standard Test Method for Surface Burning Characteristics of Building Materials*, or UL 723, *Standard for Test for Surface Burning Characteristics of Burning Materials*. [101, 2006]

3.3.115 Flammable Vapors. Flammable vapors are the concentration of flammable constituents in air that exceed 25 percent of their lower flammability limit (LFL).

3.3.116* Flash Point. The minimum temperature of a liquid at which sufficient vapor is given off to form an ignitable mixture with the air, near the surface of the liquid or within the vessel used, as determined by the appropriate test procedure and apparatus specified in 1.7.4 of NFPA 30, *Flammable and Combustible Liquids Code*. [30, 2003]

3.3.117 Floor Area.

3.3.117.1* Gross Floor Area. The floor area within the inside perimeter of the outside walls of the building under consideration with no deduction for hallways, stairs, closets, thickness of interior walls, columns, or other features. [5000, 2006]

3.3.117.2 Net Floor Area. The floor area within the inside perimeter of the outside walls, or the outside walls and fire walls of the building under consideration with deductions for hallways, stairs, closets, thickness of interior walls, columns, or other features. [5000, 2006]

3.3.118 Forecasting. The ability to predict fire progression in a scrap tire storage location prior to the completion of the inventory fire break using heavy equipment.

3.3.119* Fugitive Emissions. Releases of flammable vapor that continuously or intermittently occur from process equipment during normal operations. [30, 2003]

3.3.120 Gallon. U.S. Standard. 1 U.S. gal = 0.833 Imperial gal = 231 in.³ = 3.785 L. [58, 2004]

3.3.121 Garage. A building or a portion of a building in which one or more self-propelled vehicles carrying volatile flammable liquid for fuel or power are kept for use, sale, storage, rental, repair, exhibition, or demonstrating purposes, and all that portion of a building that is on or below the floor or floors in which such vehicles are kept and that is not separated therefrom by suitable cutoffs. [5000, 2006]

3.3.122 Gas.

3.3.122.1* Compressed Gas. A material, or mixture of materials, that (1) is a gas at 68°F (20°C) or less at 14.7 psia (101.3 kPa) of pressure, and (2) has a boiling point of 68°F (20°C) or less at 14.7 psia (101.3 kPa) that is either liquefied, nonliquefied, or in solution, except those gases that have no other health or physical hazard properties are not considered to be compressed until the pressure in the packaging exceeds 41 psia (282.5 kPa) at 68° (20°C). [5000, 2006]

3.3.122.1.1 Compressed Gas Mixtures. A mixture of two or more compressed gases contained in a packaging, the hazard properties of which are represented by the properties of the mixture as a whole.

3.3.122.1.2 Compressed Gases in Solution. Nonliquefied gases that are dissolved in a solvent.

3.3.122.1.3 Liquefied Compressed Gases. Gases that are contained in a packaging under the charged pressure and are partially liquid at a temperature of 68°F (20°C).

3.3.122.1.4 Nonliquefied Compressed Gases. Gases, other than those in solution, that are contained in a packaging under the charged pressure and are entirely gaseous at a temperature of 68°F (20°C).

3.3.122.2 Corrosive Gas. A gas that causes visible destruction of or irreversible alterations in living tissue by chemical action at the site of contact. [55, 2005]

3.3.122.3 Flammable Gas. A material that is a gas at 68°F (20°C) or less at an absolute pressure of 14.7 psia (101.325 kPa), that is ignitable at an absolute pressure of 14.7 psia (101.325 kPa) when in a mixture of 13 percent or less by volume with air, or that has a flammable range at an absolute pressure of 14.7 psia (101.325 kPa) with air of at least 12 percent, regardless of the lower limit. [55, 2005]

3.3.122.4 Flammable Liquefied Gas. A liquefied compressed gas that, when under a charged pressure, is partially liquid at a temperature of 68°F (20°C) and is flammable. [55, 2005]

3.3.122.5 Highly Toxic Gas. A chemical that has a median lethal concentration (LC₅₀) in air of 200 ppm by volume or less of gas or vapor, or 2 mg/L or less of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb and 0.66 lb (200 g and 300 g) each. [55, 2005]

3.3.122.6* Inert Gas. Any gas that is nonflammable, nonreactive, and noncontaminating.

3.3.122.7 Irritant Gas. A chemical that is not corrosive, but that causes a reversible inflammatory effect on living tissue by chemical action at the site of contact. A chemical is a skin irritant if, when tested on the intact skin of albino rabbits by the methods of 16 CFR 1500.41, for an exposure of 4 or more hours or by other appropriate techniques, it results in an empirical score of 5 or more. A chemical is classified as an eye irritant if so determined under the procedure listed in 16 CFR 1500.42, or other appropriate techniques. [55, 2005]

3.3.122.8 Liquefied Gas. A gas, other than in solution, that in a packaging under the charged pressure exists both as a liquid and a gas at a temperature of 68°F (20°C). [30, 2003]

3.3.122.9 Liquefied Natural Gas (LNG). A fluid in the cryogenic liquid state that is composed predominantly of methane and that can contain minor quantities of ethane, propane, or nitrogen. [52, 2006]

3.3.122.10 Liquefied Petroleum Gas (LP-Gas). Any material having a vapor pressure not exceeding that allowed for commercial propane that is composed predominantly of the following hydrocarbons, either by themselves or as mixtures: propane, propylene, butane (normal butane or isobutane), and butylenes. [58, 2004]

3.3.122.11 Nonflammable Gas. A gas that does not meet the definition of a flammable gas. [55, 2005]

3.3.122.12* Other Gas. A gas that is not a corrosive gas, flammable gas, highly toxic gas, oxidizing gas, pyrophoric gas, toxic gas, or unstable reactive gas with a hazard rating of Class 2, Class 3, or Class 4 gas. [55, 2005]

3.3.122.13 Oxidizing Gas. A gas that can support and accelerate combustion of other materials. [55, 2005]

3.3.122.14 Pyrophoric Gas. A gas with an autoignition temperature in air at or below 130°F (54.4°C). [55, 2005]

3.3.122.15 Scavenged Gas. A residual process gas that is collected for treatment or release at a location remote from the site of use.

3.3.122.16 Simple Asphyxiant Gas. A gas that does not provide sufficient oxygen to support life and that has none of the other physical or health hazards.

3.3.122.17 Toxic Gas. A gas with a median lethal concentration (LC₅₀) in air of more than 200 ppm, but not more than 2000 ppm by volume of gas or vapor, or more than 2 mg/L, but not more than 20 mg/L of mist, fume, or dust, when administered by continuous inhalation for 1 hour (or less if death occurs within 1 hour) to albino rats weighing between 0.44 lb and 0.66 lb (200 g and 300 g) each. [55, 2005]

3.3.122.18* Unstable Reactive Gas. A gas that, in the pure state or as commercially produced, will vigorously polymerize, decompose, or condense, become self-reactive, or otherwise undergo a violent chemical change under conditions of shock, pressure, or temperature. [55, 2005]

3.3.123* Gas Cabinet. A fully enclosed, noncombustible enclosure used to provide an isolated environment for compressed gas cylinders in storage and use. [5000, 2006]

3.3.124 Gas Manufacturer/Producer. A business that produces compressed gases or cryogenic fluids, or both, or fills portable or stationary gas containers, cylinders, or tanks. [55, 2005]

3.3.125 Gas Room. See 3.3.200.2.

3.3.126 Ground Kettle. A container that could be mounted on wheels and is used for heating tar, asphalt, or similar substances.

3.3.127 Handling. The deliberate movement of material by any means to a point of storage or use.

3.3.128* Hazard of Contents.

3.3.128.1 High Hazard. High hazard contents include materials defined as hazardous materials in 3.3.156.3, whether stored, used, or handled. [5000:6.3.2.4.1.1]

3.3.128.1.1 High Hazard Level 1 Contents. High hazard Level 1 contents include materials that present a detonation hazard, limited to, explosives; unclassified detonable organic peroxides; Class 4 oxidizers; detonable pyrophoric materials; and unstable (reactive) materials, Class 3 detonable, and Class 4. [5000:6.3.2.4.2]

3.3.128.1.2 High Hazard Level 2 Contents. High hazard Level 2 contents include materials that present a deflagration hazard or a hazard from accelerated burning, including but not limited to: Class I, Class II or Class III-A flammable or combustible liquids that are used or stored in normally open containers or systems, or in closed containers or systems at gauge pressures of more than 15 psi (103 kPa); combustible dusts stored, used, or generated in a manner creating a severe fire or explosion hazard; flammable gases and flammable cryogenic liquids; Class I organic peroxides; Class 3 solid or liquid oxidizers that are used or stored in normally open containers or systems, or in closed containers or systems at gauge pressures of more than 15 psi (103 kPa); nondetonable pyrophoric materials;

Class 3 nondetonable unstable (reactive) materials; and Class 3 water-reactive materials. [5000:6.3.2.4.3]

3.3.128.1.3 High Hazard Level 3 Contents. High hazard Level 3 contents include materials that readily support combustion or present a physical hazard including, but not limited to, Level 2 and Level 3 aerosols; Class I, Class II, or Class III-A flammable or combustible liquids that are used or stored in normally closed containers or systems at gauge pressures of less than 15 psi (103 kPa); consumer fireworks, 1.4 G; flammable solids, other than dusts classified as high hazard Level 2, stored, used, or generated in a manner creating a high fire hazard; Class II and Class III organic peroxides; Class 2 solid or liquid oxidizers; Class 3 solid or liquid oxidizers that are used or stored in normally closed containers or systems at gauge pressures of less than 15 psi (103 kPa); oxidizing gases and oxidizing cryogenic liquids; Class 2 unstable (reactive) materials; and Class 2 water-reactive materials. [5000:6.3.2.4.4]

3.3.128.1.4 High Hazard Level 4 Contents. High hazard Level 4 contents include materials that are acute health hazards including, but not limited to, corrosives; highly toxic materials; and toxic materials [5000:6.3.2.4.5]

3.3.128.1.5 High Hazard Level 5 Contents. High hazard Level 5 contents include hazardous production materials (HPM) used in the fabrication of semiconductors or semiconductor research and development. [5000:6.3.2.4.6]

3.3.128.2* Low Hazard Contents. Contents that are of such low combustibility that no self-propagating fire therein can occur. [5000:6.3.2.2]

3.3.128.3* Ordinary Hazard Contents. Contents that are likely to burn with moderate rapidity or to give off a considerable volume of smoke. [5000:6.3.2.3]

3.3.129* Hazard Rating. The numerical rating of the health, flammability, and self-reactivity, and other hazards of the material, including its reaction with water, specified in NFPA 704, *Standard System for the Identification of the Hazards of Materials for Emergency Response*. [55, 2005]

3.3.130 Hazardous Material. See 3.3.156.3.

3.3.131 Hazardous Material Storage Facility. A building, a portion of a building, or exterior area used for the storage of hazardous materials in excess of exempt amounts.

3.3.132 Hazardous Materials Storage Locker. A movable prefabricated structure, manufactured primarily at a site other than the final location of the structure and transported completely assembled or in a ready-to-assemble package to the final location. It is intended to meet local, state, and federal requirements for outside storage of hazardous materials. [30, 2003]

3.3.133* Hazardous Reaction or Hazardous Chemical Reaction. Reactions that result in dangers beyond the fire problems relating to flash point and boiling point of either the reactants or of the products. [30, 2003]

3.3.134* Heliport. An identifiable area located on land, on water, or on a structure, that also includes any existing buildings or facilities thereon, used or intended to be used for landing and takeoff of helicopters. [418, 2001]

3.3.135 Hogged Material. Mill waste consisting mainly of hogged bark but possibly including a mixture of bark, chips, dust, or other by-products from trees; also includes material designated as hogged fuel.

3.3.136 Home.

3.3.136.1 Day-Care Home. See 3.3.165.6.

3.3.136.2 Nursing Home. See 3.3.165.18.

3.3.137 Horizontal Exit. See 3.3.92.1.

3.3.138* Immediately Dangerous to Life and Health (IDLH). A concentration of airborne contaminants, normally expressed in parts per million (ppm) or milligrams per cubic meter, that represents the maximum level from which one could escape within 30 minutes without any escape-impairing symptoms or irreversible health effects. [55, 2005]

3.3.139 Imminent Danger. A condition or practice in an occupancy or structure that poses a danger that could reasonably be expected to cause death, serious physical harm, or serious property loss.

3.3.140* Incident Commander. The person who is responsible for all decisions relating to the management of the incident and is in charge of the incident site. [472, 2002]

3.3.141 Incidental Liquid Use or Storage. Use or storage as a subordinate activity to that which establishes the occupancy or area classification. [30, 2003]

3.3.142 Indicating Valve. See 3.3.245.1.

3.3.143 Initiating Device Circuit. A circuit to which automatic or manual initiating devices are connected where the signal received does not identify the individual device operated. [72, 2002]

3.3.144 Inside Liquid Storage Area. See 3.3.13.6.

3.3.145 Jurisdiction. A governmental unit or political division or a subdivision.

3.3.146 Limit.

3.3.146.1* Ceiling Limit. The maximum concentration of an airborne contaminant to which a person can be exposed. [5000, 2006]

3.3.146.2* Permissible Exposure Limit (PEL). The maximum permitted 8-hour, time-weighted average concentration of an airborne contaminant. [55, 2005]

3.3.146.3* Short-Term Exposure Limit (STEL). The concentration to which it is believed that workers can be exposed continuously for a short period of time without suffering from irritation, chronic or irreversible tissue damage, or narcosis of a degree sufficient to increase the likelihood of accidental injury, impairment of self-rescue, or the material reduction of work efficiency, without exceeding the daily permissible exposure limit (PEL). [55, 2005]

3.3.147* Limited-Combustible (Material). Refers to a building construction material not complying with the definition of noncombustible (see 3.3.156.9) that, in the form in which it is used, has a potential heat value not exceeding 3500 Btu/lb (8141 kJ/kg), where tested in accordance with NFPA 259, *Standard Test Method for Potential Heat of Building Materials*, and includes either of the following: (1) materials having a structural base of noncombustible material, with a surfacing not exceeding a thickness of 1/8 in. (3.2 mm) that has a flame spread index not greater than 50; (2) materials, in the form and thickness used, having neither a flame spread index greater than 25 nor evidence of continued progressive combustion, and of such composition that surfaces that would be exposed by cutting through the material on any plane would have neither a flame

spread index greater than 25 nor evidence of continued progressive combustion. [101, 2006]

3.3.148 Liquid.

3.3.148.1 Combustible Liquid. Any liquid that has a closed-cup flash point at or above 100°F (37.8°C), as determined by the test procedures and apparatus set forth in 1.7.4 of NFPA 30, *Flammable and Combustible Liquids Code*. Combustible liquids are classified as Class II or Class III as follows: (1) *Class II Liquid* — any liquid that has a flash point at or above 100°F (37.8°C) and below 140°F (60°C); (2) *Class IIIA* — any liquid that has a flash point at or above 140°F (60°C), but below 200°F (93°C); (3) *Class IIIB* — any liquid that has a flash point at or above 200°F (93°C). [30, 2003]

3.3.148.2 Flammable Liquid. Any liquid that has a closed-cup flash point below 100°F (37.8°C), as determined by the test procedures and apparatus set forth in 1.7.4 of NFPA 30, *Flammable and Combustible Liquids Code*. Flammable liquids are classified as Class I as follows: (a) *Class I Liquid* — any liquid that has a closed-cup flash point below 100°F (37.8°C) and a Reid vapor pressure not exceeding 40 psia (2068.6 mm Hg) at 100°F (37.8°C), as determined by ASTM D 323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*. Class I liquids are further classified as follows: (1) Class IA liquids — those liquids that have flash points below 73°F (22.8°C) and boiling points below 100°F (37.8°C); (2) Class IB liquids — those liquids that have flash points below 73°F (22.8°C) and boiling points at or above 100°F (37.8°C); (3) Class IC liquids — those liquids that have flash points at or above 73°F (22.8°C), but below 100°F (37.8°C). [30, 2003]

3.3.148.3 Highly Volatile Liquid. A liquid with a boiling point of less than 68°F (20°C).

3.3.148.4 Stable Liquid. Any liquid not defined as unstable. [30, 2003]

3.3.149 Log. Felled tree from which all the branches have been removed.

3.3.150 Loose House. A separate detached building in which unbaled combustible fibers are stored.

3.3.151 Lumber. Wood from felled trees having a section produced by lengthwise sawing or chipping of logs or other solid wood of large dimensions and possible crosscutting and/or further machining to obtain a certain size and includes boards, dimension lumber, timber, and similar wood products.

3.3.152 Manual Fire Alarm Box. A manually operated device used to initiate an alarm signal. [72, 2002]

3.3.153 Manual Pull Station. See 3.3.152, Manual Fire Alarm Box.

3.3.154 Marine Terminal. A facility comprising one or more berths, slips, piers, wharves, loading and unloading areas, warehouses, and storage yards used for the transfer of people and/or cargo between waterborne carriers and land. [307, 2006]

3.3.155 Marine Vessel. A water craft or other artificial contrivance used as a means of transportation in or on the water.

3.3.156 Material.

3.3.156.1 Combustible (Material). See 3.3.48.

3.3.156.2 Compatible Material. A material that, when in contact with an oxidizer, will not react with the oxidizer or promote or initiate its decomposition. [430, 2004]

3.3.156.3 Hazardous Material. A chemical or substance that is classified as a physical hazard material or a health hazard material, whether the chemical or substance is in usable or waste condition. (See also 3.3.156.5, *Health Hazard Material*, and 3.3.156.10, *Physical Hazard Material*.) [5000, 2006]

3.3.156.4 Hazardous Production Material (HPM). A solid, liquid, or gas associated with semiconductor manufacturing that has a degree-of-hazard rating of 3 or 4 in health, flammability, instability, or water reactivity in accordance with NFPA 704 and that is used directly in research, laboratory, or production processes that have as their end product materials that are not hazardous. [5000, 2006]

3.3.156.5 Health Hazard Material. A chemical or substance classified as a toxic, highly toxic, or corrosive material in accordance with the definitions set forth in this *Code*. [5000, 2006]

3.3.156.6* Highly Toxic Material. A material that produces a lethal dose or lethal concentration that falls within any of following categories: (1) a chemical that has a median lethal dose (LD_{50}) of 50 mg/kg or less of body weight when administered orally to albino rats weighing between 200 g and 300 g each; (2) a chemical that has a median lethal dose (LD_{50}) of 200 mg/kg or less of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the bare skin of albino rabbits weighing between 2 kg and 3 kg each; (3) a chemical that has a median lethal concentration (LC_{50}) in air of 200 parts per million by volume or less of gas or vapor, or 2 mg/L or less of mist, fume, or dust, when administered by continuous inhalation for 1 hour, or less if death occurs within 1 hour, to albino rats weighing between 200 g and 300 g each. [5000, 2006]

3.3.156.7 Hogged Material. See 3.3.135.

3.3.156.8 Incompatible Material. Materials that, when in contact with each other, have the potential to react in a manner that generates heat, fumes, gases or by-products that are hazardous to life and property. [5000, 2006]

3.3.156.9 Noncombustible Material. A material that, in the form in which it is used and under the conditions anticipated, will not ignite, burn, support combustion, or release flammable vapors, when subjected to fire or heat. Materials that are reported as passing ASTM E 136, *Standard Test Method for Behavior of Materials in a Vertical Tube Furnace at 750 Degrees C*, shall be considered noncombustible materials. [5000, 2006]

3.3.156.10 Physical Hazard Material. A chemical or substance classified as a combustible liquid, explosive, flammable cryogen, flammable gas, flammable liquid, flammable solid, organic peroxide, oxidizer, oxidizing cryogen, pyrophoric, unstable (reactive), or water-reactive material. [5000, 2006]

3.3.156.11 Toxic Material. A material that produces a lethal dose or a lethal concentration within any of the following categories: (1) a chemical or substance that has a median lethal dose (LD_{50}) of more than 50 mg/kg but not more than 500 mg/kg of body weight when administered orally to albino rats weighing between 200 g and 300 g each; (2) a chemical or substance that has a median lethal dose (LD_{50}) of more than 200 mg/kg but not more than 1000 mg/kg of body weight when administered by continuous contact for 24 hours, or less if death occurs within 24 hours, with the bare skin of albino rabbits weighing be-

tween 2 kg and 3 kg each; (3) a chemical or substance that has a median lethal concentration (LC_{50}) in air of more than 200 parts per million but not more than 2000 parts per million by volume of gas or vapor, or more than 2 mg/L but not more than 20 mg/L of mist, fume, or dust when administered by continuous inhalation for 1 hour, or less if death occurs within 1 hour, to albino rats weighing between 200 g and 300 g each. [5000, 2006]

3.3.156.12* Unstable (Reactive) Material. A material that, in the pure state or as commercially produced, will vigorously polymerize, decompose, or condense, become self-reactive, or otherwise undergo a violent chemical change under conditions of shock, pressure, or temperature. [5000, 2006]

3.3.156.13* Water-Reactive Material. A material that explodes; violently reacts; produces flammable, toxic, or other hazardous gases; or evolves enough heat to cause self-ignition or ignition of nearby combustibles upon exposure to water or moisture. [5000, 2006]

3.3.157 Material Safety Data Sheet (MSDS). Written or printed material concerning a hazardous material that is prepared in accordance with the provisions of OSHA 29 CFR 1910.1200.

3.3.158* Maximum Allowable Quantity (MAQ). The quantity of hazardous material permitted in a control area.

3.3.159* Means of Egress. A continuous and unobstructed way of travel from any point in a building or structure to a public way consisting of three separate and distinct parts: (1) the exit access, (2) the exit, and (3) the exit discharge. [101, 2006]

3.3.160 Means of Escape. A way out of a building or structure that does not conform to the strict definition of means of egress but does provide an alternate way out. [101, 2006]

3.3.161 Mezzanine. An intermediate level between the floor and the ceiling of any room or space. [101, 2006]

3.3.162 Motor Vehicle Fluid. A fluid that is a flammable, combustible, or hazardous material, such as crankcase fluids, fuel, brake fluids, transmission fluids, radiator fluids, and gear oil.

3.3.163 Nesting. A method of securing cylinders upright in a tight mass using a contiguous three-point contact system whereby all cylinders in a group have a minimum of three contact points with other cylinders or a solid support structure (for example, a wall or railing). [55, 2005]

3.3.164 Normal Temperature and Pressure (NTP). A temperature of 70°F (21.1°C) and a pressure of 1 atmosphere [14.7 psia (101.3 kPa)].

3.3.165 Occupancy. The purpose for which a building or other structure, or part thereof, is used or intended to be used. [ASCE 7:1.2]

3.3.165.1* Ambulatory Health Care Occupancy. A building or portion thereof used to provide services or treatment simultaneously to four or more patients that provides, on an outpatient basis, one or more of the following: (1) treatment for patients that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others; (2) anesthesia that renders the patients incapable of taking action for self-preservation under emergency conditions without the assistance of others; (3) emergency or urgent care for patients who, due to the nature of their injury or illness, are incapable of taking action for self-preservation under emergency conditions without the assistance of others [101, 2006]

3.3.165.2* Apartment Building. A building or portion thereof containing three or more dwelling units with independent cooking and bathroom facilities. [5000, 2006]

3.3.165.3* Assembly Occupancy. An occupancy (1) used for a gathering of 50 or more persons for deliberation, worship, entertainment, eating, drinking, amusement, awaiting transportation, or similar uses; or (2) used as a special amusement building, regardless of occupant load. [101, 2006]

3.3.165.4 Bulk Merchandising Retail Building. A building in which the sales area includes the storage of combustible materials on pallets, in solid piles, or in racks in excess of 12 ft (3660 mm) in storage height. [5000, 2006]

3.3.165.5* Business Occupancy. An occupancy used for the transaction of business other than mercantile. [5000, 2006]

3.3.165.6* Day-Care Home. A building or portion of a building in which more than 3 but not more than 12 clients receive care, maintenance, and supervision, by other than their relative(s) or legal guardian(s), for less than 24 hours per day. [101, 2006]

3.3.165.7* Day-Care Occupancy. An occupancy in which four or more clients receive care, maintenance, and supervision, by other than their relatives or legal guardians, for less than 24 hours per day. [5000, 2006]

3.3.165.8* Detention and Correctional Occupancy. An occupancy used to house one or more persons under varied degrees of restraint or security where such occupants are mostly incapable of self-preservation because of security measures not under the occupants' control. [5000, 2006]

3.3.165.8.1 Detention and Correctional Use Condition. For application of the life safety in Section 20.7, the resident user category is divided into the five use conditions.

3.3.165.8.1.1 Use Condition I — Free Egress. Free movement is allowed from sleeping areas and other spaces where access or occupancy is permitted to the exterior via means of egress that meet the requirements of NFPA 101, *Life Safety Code*. [101, 2006]

3.3.165.8.1.2 Use Condition II — Zoned Egress. Free movement is allowed from sleeping areas and any other occupied smoke compartment to one or more other smoke compartments. [101, 2006]

3.3.165.8.1.3 Use Condition III — Zoned Impeded Egress. Free movement is allowed within individual smoke compartments, such as within a residential unit comprised of individual sleeping rooms and a group activity space, with egress impeded by remote-controlled release of means of egress from such a smoke compartment to another smoke compartment. [101, 2006]

3.3.165.8.1.4 Use Condition IV — Impeded Egress. Free movement is restricted from an occupied space, and remote-controlled release is provided to allow movement from all sleeping rooms, activity spaces, and other occupied areas within the smoke compartment to another smoke compartment. [101, 2006]

3.3.165.8.1.5 Use Condition V — Contained. Free movement is restricted from an occupied space, and staff-controlled manual release at each door is provided to allow movement from all sleeping rooms, activity spaces, and other occupied areas within the smoke compartment to another smoke compartment. [101, 2006]

3.3.165.9* Dormitory. A building or a space in a building in which group sleeping accommodations are provided for more than 16 persons who are not members of the same family in one room, or a series of closely associated rooms under joint occupancy and single management, with or without meals, but without individual cooking facilities. [101, 2006]

3.3.165.10* Educational Occupancy. An occupancy used for educational purposes through the twelfth grade by six or more persons for 4 or more hours per day or more than 12 hours per week. [5000, 2006]

3.3.165.11* Health Care Occupancy. An occupancy used for purposes of medical or other treatment or care of four or more persons where such occupants are mostly incapable of self-preservation due to age, physical or mental disability, or because of security measures not under the occupants' control. [5000, 2006]

3.3.165.12 Hospital. A building or portion thereof used on a 24-hour basis for the medical, psychiatric, obstetrical, or surgical care of four or more inpatients. [101, 2006]

3.3.165.13* Hotel. A building or groups of buildings under the same management in which there are sleeping accommodations for more than 16 persons and primarily used by transients for lodging with or without meals. [101, 2006]

3.3.165.14* Industrial Occupancy. An occupancy in which products are manufactured or in which processing, assembling, mixing, packaging, finishing, decorating, or repair operations are conducted. [5000, 2006]

3.3.165.15* Limited Care Facility. A building or portion of a building used on a 24-hour basis for the housing of four or more persons who are incapable of self-preservation because of age; physical limitations due to accident or illness; or limitations such as mental retardation/developmental disability, mental illness, or chemical dependency. [101, 2006]

3.3.165.16 Lodging or Rooming House. A building or portion thereof that does not qualify as a one- or two-family dwelling, that provides sleeping accommodations for a total of 16 or fewer people on a transient or permanent basis, without personal care services, with or without meals, but without separate cooking facilities for individual occupants. [101, 2006]

3.3.165.17* Mercantile Occupancy. An occupancy used for the display and sale of merchandise. [5000, 2006]

3.3.165.17.1 Class A Mercantile Occupancy. All mercantile occupancies having an aggregate gross area of more than 30,000 ft² (2800 m²) or occupying more than three stories for sales purposes. [101, 2006]

3.3.165.17.2 Class B Mercantile Occupancy. All mercantile occupancies of more than 3000 ft² (280 m²), but not more than 30,000 ft² (2800 m²), aggregate gross area and occupying not more than three stories for sales purposes. [101, 2006]

3.3.165.17.3 Class C Mercantile Occupancy. All mercantile occupancies of not more than 3000 ft² (280 m²) gross area and used for sales purposes occupying one story only. [101, 2006]

3.3.165.18 Nursing Home. A building or portion of a building used on a 24-hour basis for the housing and nursing care of four or more persons who, because of mental or physical incapacity, might be unable to provide for their

own needs and safety without the assistance of another person. [5000, 2006]

3.3.165.19 One- and Two-Family Dwelling. One- and two-family dwellings include buildings containing not more than two dwelling units in which each dwelling unit is occupied by members of a single family with not more than three outsiders, if any, accommodated in rented rooms. [101, 2006]

3.3.165.19.1 One- and Two-Family Dwelling Unit. A building that contains not more than two dwelling units with independent cooking and bathroom facilities. [5000, 2006]

3.3.165.20* Parking Structure. A building, structure, or portion thereof used for the parking, storage, or both, of motor vehicles. [88A, 2002]

3.3.165.20.1 Basement and Underground Parking Structures. Parking structures that are located below grade. A basement parking structure has other occupancies above it and an underground parking structure has no occupancy other than parking above it. Basement and underground parking structures are considered as specific cases of enclosed parking structures.

3.3.165.20.2 Enclosed Parking Structure. Any parking structure that is not an open parking structure. [88A, 2002]

3.3.165.20.3 Open Parking Structure. A parking structure that, at each parking level, has wall openings open to the atmosphere, for an area of not less than 1.4 ft² for each linear foot (0.4 m² for each linear meter) of its exterior perimeter. Such openings are distributed over 40 percent of the building perimeter or uniformly over two opposing sides. Interior wall lines and column lines are at least 20 percent open, with openings distributed to provide ventilation. [88A, 2002]

3.3.165.21 Repair Garages.

3.3.165.21.1 Major Repair Garage. A building or portions of a building where major repairs, such as engine overhauls, painting, body and fender work, and repairs that require draining of the motor vehicle fuel tank are performed on motor vehicles, including associated floor space used for offices, parking, or showrooms.

3.3.165.21.2 Minor Repair Garage. A building or portions of a building used for lubrication, inspection, and minor automotive maintenance work, such as engine tune-ups, replacement of parts, fluid changes (e.g., oil, antifreeze, transmission fluid, brake fluid, air conditioning refrigerants, etc.), brake system repairs, tire rotation, and similar routine maintenance work, including associated floor space used for offices, parking, or showrooms.

3.3.165.22* Residential Board and Care Occupancy. A building or portion thereof that is used for lodging and boarding of four or more residents, not related by blood or marriage to the owners or operators, for the purpose of providing personal care services. [5000, 2006]

3.3.165.23* Residential Occupancy. An occupancy that provides sleeping accommodations for purposes other than health care or detention and correctional. [101, 2006]

3.3.165.24 Motor Fuel Dispensing Facility. That portion of a property where motor fuels are stored and dispensed from fixed equipment into the fuel tanks of motor vehicles or

marine craft or into approved containers, including all equipment used in connection therewith. [30A, 2003]

3.3.165.24.1 Fleet Vehicle Motor Fuel Dispensing Facility. A motor fuel dispensing facility at a commercial, industrial, governmental, or manufacturing property where motor fuels are dispensed into the fuel tanks of motor vehicles that are used in connection with the business or operation of that property by persons within the employ of such business or operation. [30A, 2003]

3.3.165.24.2 Marine Motor Fuel Dispensing Facility. A motor fuel dispensing facility at or adjacent to shore, a pier, a wharf, or a floating dock where motor fuels are dispensed into the fuel tanks of marine craft. [30A, 2003]

3.3.165.24.3* Motor Fuel Dispensing Facility Located Inside a Building. That portion of a motor fuel dispensing facility located within the perimeter of a building or building structure that also contains other occupancies. [30A, 2003]

3.3.165.25* Storage Occupancy. An occupancy used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. [5000, 2006]

3.3.165.25.1* Mini-Storage Building. A storage occupancy partitioned into areas that are rented or leased for the purposes of storing personal or business items where all of the following apply: (1) the storage areas are separated from each other by less than a 1-hour fire resistance rated barrier, (2) the owner of the facility does not have unrestricted access, and (3) the items being stored are concealed from view from outside the unit.

3.3.166 Occupant Load. The total number of persons that might occupy a building or portion thereof at any one time. [5000, 2006]

3.3.167 Open System Use. See 3.3.244.2.

3.3.168 Operating Unit (Vessel) or Process Unit (Vessel). The equipment in which a unit operation or unit process is conducted. (See also 3.3.240, *Unit Operation or Unit Process*.) [30, 2003]

3.3.169 Operating Pressure. The pressure at which a system operates.

3.3.170 Operations. A general term that includes, but is not limited to, the use, transfer, storage, and processing of liquids. [30, 2003]

3.3.171 Organic Peroxide. Any organic compound having a double oxygen or peroxy (-O-O-) group in its chemical structure. [432, 2002]

3.3.171.1* Organic Peroxide Formulation. A pure organic peroxide or a mixture of one or more organic peroxides with one or more other materials in various combinations and concentrations. [432, 2002]

3.3.171.2 Organic Peroxide Storage Area. See 3.3.13.7.

3.3.172 OSHA. The Occupational Safety and Health Administration of the U.S. Department of Labor. [55, 2005]

3.3.173* Oxidizer. Any material that readily yields oxygen or other oxidizing gas, or that readily reacts to promote or initiate combustion of combustible materials and can undergo a vigorous self-sustained decomposition due to contamination or heat exposure. For the purpose of this *Code*, oxidizers are classified according to the system listed in 3.3.173.1 through 3.3.173.4. [430, 2004]

3.3.173.1 Class 1. An oxidizer that does not moderately increase the burning rate of combustible materials with which it comes into contact.

3.3.173.2 Class 2. An oxidizer that causes a moderate increase in the burning rate of combustible materials with which it comes into contact.

3.3.173.3 Class 3. An oxidizer that causes a severe increase in the burning rate of combustible materials with which it comes into contact.

3.3.173.4 Class 4. An oxidizer that can undergo an explosive reaction due to contamination or exposure to thermal or physical shock and that causes a severe increase in the burning rate of combustible materials with which it comes into contact.

3.3.174* Packaged Fireworks Merchandise. A consumer fireworks device or group of consumer fireworks devices that has been packaged within an unperforated container or packaging material by the manufacturer, distributor, or seller for retail display and sale as a unit. [1124, 2006]

3.3.175 Packaging. A commodity wrapping, cushioning, or container. [13, 2002]

3.3.176 Paper. Felted sheets made from natural fibrous materials, usually vegetable but sometimes mineral or animal, and formed on a fine wire screen by means of water suspension.

3.3.177 Patch Kettle. Any pot or container with a capacity of less than 6 gal (22.7 L) used for preheating tar, asphalt, pitch, or similar substances for the repair of roofs, streets, floors, pipes, or similar objects.

3.3.178 Permissible Exposure Limit (PEL). See 3.3.146.2.

3.3.179 Permit. A document issued by the authority having jurisdiction for the purpose of authorizing performance of a specified activity.

3.3.180 Peroxide-Forming Chemical. A chemical that, when exposed to air, forms explosive peroxides that are shock sensitive, pressure sensitive, or heat sensitive.

3.3.181* Personal Care. The care of residents who do not require chronic or convalescent medical or nursing care. [101, 2006]

3.3.182 Pesticide. Any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest or for use as a plant regulator, defoliant, or desiccant. [434, 2002]

3.3.183 Physical Hazard. A chemical for which there is scientifically valid evidence that the chemical is an organic peroxide or oxidizer.

3.3.184 Pier. A structure, usually of greater length than width and projecting from the shore into a body of water with direct access from land, that can be either open deck or provided with a superstructure. [307: 2.1.15]

3.3.185 Planned Building Groups. Multiple structures constructed on a parcel of land, excluding farmland, under the ownership, control, or development by an individual, a corporation, a partnership, or a firm. [1141, 2003]

3.3.186 Primary Containment. The first level of containment, consisting of the inside portion of that container that comes into immediate contact on its inner surface with the material being contained.

3.3.187 Private Building. See 3.3.27.9.

3.3.188* Process or Processing. An integrated sequence of operations. [30, 2003]

3.3.189 Process Unit (Vessel). See 3.3.168, Operating Unit (Vessel) or Process Unit (Vessel).

3.3.190 Professional Engineer. An individual technically and legally qualified to practice the profession of engineering.

3.3.191 Proprietary Information. Information regarding compounds or ingredients used in a process or production that do not qualify as trade secrets but that provide an industry or business with a competitive advantage.

3.3.192 Protection for Exposures. Fire protection for structures on property adjacent to liquid storage that is provided by (1) a public fire department or (2) a private fire brigade maintained on the property adjacent to the liquid storage, either of which is capable of providing cooling water streams to protect the property adjacent to the liquid storage. [30, 2003]

3.3.193 Public Way. A street, alley, or other similar parcel of land essentially open to the outside air deeded, dedicated, or otherwise permanently appropriated to the public for public use and having a clear width and height of not less than 10 ft (3050 mm). [101, 2006]

3.3.194 Pyrophoric. A chemical that spontaneously ignites in air at or below a temperature of 130°F (54.5°C).

3.3.195* Rack. Any combination of vertical, horizontal, and diagonal members that supports stored materials.

3.3.195.1 Double-Row Racks. Two single-row racks placed back-to-back having a combined width up to 12 ft (3.7 m), with aisles at least 3.5 ft (1.1 m) on each side. [13, 2002]

3.3.195.2* Movable Racks. Racks on fixed rails or guides.

3.3.195.3 Multiple-Row Racks. Racks greater than 12 ft (3.7 m) wide or single- or double-row racks separated by aisles less than 3.5 ft (1.1 m) wide having an overall width greater than 12 ft (3.7 m). [13, 2002]

3.3.195.4* Portable Racks. Racks that are not fixed in place.

3.3.195.5 Single-Row Racks. Racks that have no longitudinal flue space and that have a width up to 6 ft (1.8 m) with aisles at least 3.5 ft (1.1 m) from other storage. [13, 2002]

3.3.196* Ramp. A walking surface that has a slope steeper than 1 in 20. [101, 2006]

3.3.197 Recreational Fire. The noncommercial burning of materials other than rubbish for pleasure, religious, ceremonial, cooking, or similar purposes in which the fuel burned is not contained in an incinerator, a barbecue grill, or a barbecue pit, and the total fuel area is not exceeding 3 ft (0.9 m) in diameter and 2 ft (0.6 m) in height.

3.3.198 Refinery. A plant in which flammable or combustible liquids are produced on a commercial scale from crude petroleum, natural gasoline, or other hydrocarbon sources. [30, 2003]

3.3.199 Relocatable Power Tap. A device for indoor use consisting of an attachment plug on one end of a flexible cord and two or more receptacles on the opposite end, and has overcurrent protection.

3.3.200 Room.

3.3.200.1 Cutoff Room. A room within a building and having at least one exterior wall. [30, 2003]

3.3.200.2* Gas Room. A separately ventilated, fully enclosed room in which only compressed gases, cryogenic fluids, associated equipment and supplies are stored or used. [55, 2005]

3.3.200.3 Inside Room. A room totally enclosed within a building and having no exterior walls. [30, 2003]

3.3.201 Row. A minimum yard storage unit comprised of adjoining cotton bales.

3.3.202 Safety Can. A listed container, of not more than 5.3 gal (20 L) capacity, having a spring-closing lid and spout cover and so designed that it will safely relieve internal pressure when subjected to fire exposure. [30, 2003]

3.3.203 Sales Display Area. See 3.3.13.9.

3.3.204 Salvage Vehicle. A vehicle that is dismantled for parts or awaiting destruction.

3.3.205 Self-Closing. Equipped with an approved device that ensures closing after opening. [101, 2006]

3.3.206 Separation of Hazards. Physically separated by a specified distance, construction, or appliance. [55, 2005]

3.3.207 Shop Drawings. Scaled working drawings, equipment cutsheets, and design calculations. (See 3.3.12, *Plan*, in NFPA 1031.) [1031, 2003]

3.3.208 Signal.

3.3.208.1 Alarm Signal. A signal indicating an emergency that requires immediate action, such as a signal indicative of fire. [72, 2002]

3.3.208.2 Fire Alarm Signal. A signal initiated by a fire alarm-initiating device such as a manual fire alarm box, automatic fire detector, waterflow switch, or other device in which activation is indicative of the presence of a fire or fire signature. [72, 2002]

3.3.208.3 Supervisory Signal. A signal indicating the need for action in connection with the supervision of guard tours, the fire suppressions or equipment, or the maintenance features of related systems. [72, 2002]

3.3.208.4 Trouble Signal. A signal initiated by the fire alarm system or device indicative of a fault in a monitored circuit or component. [72, 2002]

3.3.209 Simple Asphyxiant Gas. See 3.3.122.16.

3.3.210 Smoke Alarm. A single or multiple station alarm responsive to smoke. [72, 2002]

3.3.211* Smoke Barrier. A continuous membrane, or a membrane with discontinuities created by protected openings, where such membrane is designed and constructed to restrict the movement of smoke. [5000, 2006]

3.3.212 Smoke Compartment. See 3.3.58.2.

3.3.213* Smoke Partition. A continuous membrane that is designed to form a barrier to limit the transfer of smoke. [101, 2006]

3.3.214 Smoking. The use or carrying of a lighted pipe, cigar, cigarette, tobacco, or any other type of smoking substance.

3.3.215 Smoking Area. See 3.3.13.10.

3.3.216 Solid.

3.3.216.1* Combustible Particulate Solid. Any combustible solid material comprised of distinct particles or pieces, regardless of size, shape, or chemical composition, that is capable of being pneumatically conveyed. [69, 2002]

3.3.216.2* Flammable Solid. A solid substance, other than a substance defined as a blasting agent or explosive, that is liable to cause fire resulting from friction or retained heat from manufacture, that has an ignition temperature below 212°F (100°C), or which burns so vigorously or persistently when ignited that it creates a serious hazard.

3.3.217 Solid Shelving. Solid, slatted, and other types of shelving located within racks that obstruct sprinkler water penetration down through the racks.

3.3.218 Special Use. See 3.3.244.3.

3.3.219 Spray Area. See 3.3.13.11.

3.3.220* Spray Booth. A power-ventilated enclosure for a spray application operation or process that confines and limits the escape of the material being sprayed, including vapors, mists, dusts, and residues that are produced by the spraying operation and conducts or directs these materials to an exhaust system. [33, 2003]

3.3.221* Spray Room. A power-ventilated fully enclosed room used exclusively for open spraying of flammable or combustible materials. [33, 2003]

3.3.222 Standard Cubic Foot of Gas. Cubic foot of gas at 14.7 psia (101 kPa) and 70°F (21°C). [55, 2005]

3.3.223 Standard Temperature and Pressure (STP). A temperature of 70°F (21°C) and a pressure of 1 atmosphere (14.7 psi or 760 mm Hg).

3.3.224 Standpipe System. See 3.3.233.11.

3.3.225 Storage.

3.3.225.1 Banded Tire Storage. Storage in which a number of tires are strapped together.

3.3.225.2 Cartoned Storage. Storage consisting of corrugated cardboard or paperboard containers that fully enclose the commodity.

3.3.225.3 Detached Storage. Storage in a separate building or in an outside area located away from all structures.

3.3.225.4 High-Piled Storage. Solid-piled, palletized, rack storage, bin box, and shelf storage in excess of 12 ft (3.7 m) in height. [13, 2002]

3.3.225.5 Isolated Storage. Storage in a different storage room or in a separate and detached building located at a safe distance.

3.3.225.6* Laced Tire Storage. Tires stored where the sides of the tires overlap, creating a woven or laced appearance. [13, 2002]

3.3.225.7* Miscellaneous Tire Storage. The storage of rubber tires that is incidental to the main use of the building. Storage areas shall not exceed 2000 ft² (186 m²). On-tread storage piles, regardless of storage method, shall not exceed 25 ft (7.6 m) in the direction of the wheel holes. Acceptable storage arrangements include (a) on-floor, on-side storage up to 12 ft (3.7 m) high; (b) on-floor, on-tread storage up to 5 ft (1.5 m) high; (c) double-row or multirow

fixed or portable rack storage on-side or on-tread up to 5 ft (1.5 m) high; (d) single-row fixed or portable rack storage on-side or on-tread up to 12 ft (3.7 m) high; and (e) laced tires in racks up to 5 ft (1.5 m) in height. [13, 2002]

3.3.225.8 On-Side Tire Storage. Tires stored horizontally or flat. [13, 2002]

3.3.225.9 On-Tread Tire Storage. Tires stored vertically or on their treads. [13, 2002]

3.3.225.10 Palletized Storage. Storage of commodities on pallets or other storage aids that form horizontal spaces between tiers of storage. [13, 2002]

3.3.225.11 Segregated Storage. Storage located in the same room or inside area that is physically separated by distance from incompatible materials.

3.3.225.12 Yard Storage. Storage of commodities in outdoor areas.

3.3.226 Storage Aids. Commodity storage devices, such as pallets, dunnage, separators, and skids. [13, 2002]

3.3.227* Store. As used in Chapter 65, a building classified as a mercantile occupancy that contains a variety of merchandise and that is not used primarily for the retail sales of consumer fireworks. [1124, 2006]

3.3.228 Story. The portion of a building located between the upper surface of a floor and the upper surface of the floor or roof next above. [5000, 2006]

3.3.228.1* Occupiable Story. A story occupied by people on a regular basis. [101, 2006]

3.3.229 Street. A public thoroughfare that has been dedicated for vehicular use by the public and can be used for access by fire department vehicles. [101, 2006]

3.3.230* Street Floor. A story or floor level accessible from the street or from outside the building at ground level, with the floor level at the main entrance located not more than three risers above or below ground level, and arranged and utilized to qualify as the main floor. [101B, 2002]

3.3.231* Structure. That which is built or constructed. [101, 2006]

3.3.232 Summarily Abate. To immediately judge a condition to be a fire hazard to life or property and to order immediate correction of such condition.

3.3.233 System. Several items of equipment assembled, grouped, or otherwise interconnected for the accomplishment of a purpose or function.

3.3.233.1 Automatic Fire Extinguishing System. Any system that is designed and installed to detect a fire and subsequently discharge an extinguishing agent without human activation or direction. [1141, 2003]

3.3.233.2 Bulk Oxygen System. An assembly of equipment, such as oxygen storage containers, pressure regulators, pressure relief devices, vaporizers, manifolds, and interconnecting piping, with a storage capacity of more than 20,000 ft³ (scf) (566 m³) of oxygen including unconnected reserves on hand at the site. The bulk oxygen system terminates at the point where oxygen at service pressure first enters the supply line. The oxygen containers are either stationary or movable, and the oxygen is stored as a compressed gas or cryogenic fluid. [55, 2005]

3.3.233.3 Central Station Fire Alarm System. A system or group of systems in which the operations of circuits and devices are transmitted automatically to, recorded in, maintained by, and supervised from a listed central station that has competent and experienced servers and operators who, upon receipt of a signal, take such action as required by NFPA 72. Such service is to be controlled and operated by a person, firm, or corporation whose business is the furnishing, maintaining, or monitoring of supervised fire alarm systems. [72, 2002]

3.3.233.4 Compressed Gas System. An assembly of equipment designed to contain, distribute, or transport compressed gases. [318, 2006]

3.3.233.5 Continuous Gas Detection System. A gas detection system in which the instrument is maintained in continuous operation and the interval between sampling of any point does not exceed 30 minutes. [55, 2005]

3.3.233.6 Cylinder Containment System. A gastight recovery system comprised of equipment or devices that can be placed over a leak in a compressed gas container, thereby stopping or controlling the escape of gas from the leaking container. [55, 2005]

3.3.233.7 Dedicated Smoke-Control System. A system that is intended for the purpose of smoke control only, which are separate systems of air moving and distribution equipment that do not function under normal building operating conditions.

3.3.233.8 Fire Alarm System. A system or portion of a combination system that consists of components and circuits arranged to monitor and annunciate the status of fire alarm or supervisory signal-initiating devices and to initiate the appropriate response to those signals. [72, 2002]

3.3.233.9 Fire Protection System. Any fire alarm device or system or fire extinguishing device or system, or their combination, that is designed and installed for detecting, controlling, or extinguishing a fire or otherwise alerting occupants, or the fire department, or both, that a fire has occurred. [1141, 2003]

3.3.233.10 Nondedicated Smoke-Control System. A smoke-control system that shares components with some other system(s), such as the building HVAC system, which changes its mode of operation to achieve the smoke-control objective.

3.3.233.11 Standpipe System. An arrangement of piping, valves, hose connections, and allied equipment installed in a building or structure, with the hose connections located in such a manner that water can be discharged in streams or spray patterns through attached hose and nozzles, for the purpose of extinguishing a fire, thereby protecting a building or structure and its contents in addition to protecting the occupants. This is accomplished by means of connections to water supply systems or by means of pumps, tanks, and other equipment necessary to provide an adequate supply of water to the hose connections. [14, 2003]

3.3.233.12 Treatment System. An assembly of equipment capable of processing a hazardous gas and reducing the gas concentration to a predetermined level at the point of discharge from the system to the atmosphere. [55, 2005]

3.3.233.13* Vapor Processing System. A system designed to capture and process vapors displaced during transfer or

filling operations by use of mechanical or chemical means. [30, 2003]

3.3.233.14* Vapor Recovery System. A system designed to capture and retain, without processing, vapors displaced during transfer or filling operations. [30, 2003]

3.3.234 Tactics. The method of securing the objectives laid out in the strategy through the use of personnel and equipment to achieve optimum results.

3.3.235 Tank.

3.3.235.1 Aboveground Storage Tank. A horizontal or vertical tank that is listed and intended for fixed installation, without backfill, above or below grade and is used within the scope of its approval or listing. [30A, 2003]

3.3.235.2 Aboveground Tank. A tank that is installed above grade, at grade, or below grade without backfill. [30, 2003]

3.3.235.2.1 Protected Aboveground Tank. An aboveground storage tank that is listed in accordance with UL 2085, *Standard for Protected Aboveground Tanks for Flammable and Combustible Liquids*, or an equivalent test procedure that consists of a primary tank provided with protection from physical damage and fire-resistive protection from exposure to a high-intensity liquid pool fire. [30, 2003]

3.3.235.3 ASME Tank. See 3.3.65.1, ASME Container.

3.3.235.4 Portable Tank. Any closed vessel having a liquid capacity over 60 gal (230 L) and not intended for fixed installation. This includes intermediate bulk containers (IBCs) as defined and regulated by the U.S. Department of Transportation. [30, 2003]

3.3.235.5 Secondary Containment Tank. A tank that has an inner and outer wall with an interstitial space (annulus) between the walls and that has a means for monitoring the interstitial space for a leak. [30, 2003]

3.3.235.6* Stationary Tank. A packaging designed primarily for stationary installations not intended for loading, unloading, or attachment to a transport vehicle as part of its normal operation in the process of use. [55, 2005]

3.3.235.7 Storage Tank. Any vessel having a liquid capacity that exceeds 60 gal (230 L), is intended for fixed installation, and is not used for processing. [30, 2003]

3.3.236 Temporary Wiring. Approved wiring for power and lighting during a period of construction, remodeling, maintenance, repair, or demolition, and decorative lighting, carnival power and lighting, and similar purposes.

3.3.237 Tire.

3.3.237.1 Rubber Tires. Pneumatic tires for passenger automobiles, aircraft, light and heavy trucks, trailers, farm equipment, construction equipment (off-the-road), and buses. [13, 2002]

3.3.237.2 Scrap Tire. A tire that can no longer be used for its original purpose due to wear or damage.

3.3.238 Toxic Material. See 3.3.156.11.

3.3.239 Unauthorized Discharge. A release or emission of materials in a manner that does not conform to the provisions of this *Code* or applicable public health and safety regulations.

3.3.240 Unit Operation or Unit Process. A segment of a physical or chemical process that might or might not be integrated

with other segments to constitute the manufacturing sequence. [30, 2003]

3.3.241 Unit Process. See 3.3.240, Unit Operation or Unit Process.

3.3.242 Unit (Vessel), Operating or Process. See 3.3.168.

3.3.243 Unstable (Reactive) Material. See 3.3.156.12.

3.3.244 Use.

3.3.244.1* Closed System Use (Material). A solid or liquid hazardous material in a closed vessel or system that remains closed during normal operations where vapors emitted by the product are not liberated outside of the vessel or system and the product is not exposed to the atmosphere during normal operations, and all uses of compressed gases. [5000, 2006]

3.3.244.2* Open System Use (Material). Use of a solid or liquid hazardous material in a vessel or system that is continuously open to the atmosphere during normal operations and where vapors are liberated, or the product is exposed to the atmosphere during normal operations. [5000, 2006]

3.3.244.3 Special Use. A use that includes, but is not limited to, events or occurrences during which life safety-threatening situations or fire hazards exist or are likely to exist as determined by the AHJ.

3.3.245 Valve.

3.3.245.1 Indicating Valve. A valve that has components that show if the valve is open or closed. Examples are outside screw and yoke (OS&Y) gate valves and underground gate valves with indicator posts.

3.3.245.2 Reduced Flow Valve. A valve equipped with a restricted flow orifice that is designed to reduce the maximum flow from the valve under full flow conditions.

3.3.245.3 Valve Outlet Cap or Plug. A removable device that forms a gastight seal on the outlet to the control valve that is provided on a source containing a compressed gas or cryogenic fluid. [55, 2005]

3.3.245.4 Valve Protection Cap. A rigid, removable cover provided for container valve protection during handling, transportation, and storage. [55, 2005]

3.3.245.5 Valve Protection Device. A device attached to the neck ring or body of a cylinder for the purpose of protecting the cylinder valve from being struck or from being damaged by the impact resulting from a fall or an object striking the cylinder.

3.3.246* Vapor Pressure. The pressure, measured in pounds per square inch, absolute (psia), exerted by a liquid, as determined by ASTM D 323, *Standard Method of Test for Vapor Pressure of Petroleum Products (Reid Method)*. [30, 2003]

3.3.247 Vapor Processing System. See 3.3.233.13.

3.3.248 Vapor Recovery System. See 3.3.233.14.

3.3.249 Warehouses.

3.3.249.1 General-Purpose Warehouse. A separate, detached building or portion of a building used only for warehousing-type operations. [30, 2003]

3.3.249.2 Liquid Warehouse. A separate, detached building or attached building used for warehousing-type operations for liquids. [30, 2003]

3.3.250 Water Capacity. The amount of water at 60°F (16°C) required to fill a container. [58, 2004]

3.3.251* Wharf. A structure at the shoreline that has a platform built along and parallel to a body of water with either an open deck or a superstructure. [307, 2006]

3.3.252 Wildland/Urban Interface. An area where improved property and wildland fuels meet at a well-defined boundary. [1144, 2002]

3.3.253 Wood Panel. Board or sheet made from veneers, particles, or fibers of wood and includes plywood, oriented strandboard, and similar wood products.

3.3.254 Written Notice. A notification in writing delivered in person to the individual or parties intended, or delivered at, or sent by certified or registered mail to, the last residential or business address of legal record.

3.4 Special Performance-Based Definitions.

3.4.1 Alternative Calculation Procedure. A calculation procedure that differs from the procedure originally employed by the design team but that provides predictions for the same variables of interest. [101, 2006]

3.4.2 Analysis.

3.4.2.1 Sensitivity Analysis. An analysis performed to determine the degree to which a predicted output will vary given a specified change in an input parameter, usually in relation to models. [5000, 2006]

3.4.2.2 Uncertainty Analysis. An analysis performed to determine the degree to which a predicted value will vary. [5000, 2006]

3.4.3 Data Conversion. The process of developing the input data set for the assessment method of choice. [101, 2006]

3.4.4 Design Fire Scenario. See 3.4.9.1.

3.4.5* Design Specification. A building characteristic and other conditions that are under the control of the design team. [5000, 2006]

3.4.6 Design Team. A group of stakeholders including, but not limited to, representatives of the architect, client, and any pertinent engineers and other designers. [101, 2006]

3.4.7* Exposure Fire. A fire that starts at a location that is remote from the area being protected and grows to expose that which is being protected. [101, 2006]

3.4.8* Fire Model. A structured approach to predicting one or more effects of a fire. [101, 2006]

3.4.9* Fire Scenario. A set of conditions that defines the development of fire, the spread of combustion products throughout a building or portion of a building, the reactions of people to fire, and the effects of combustion products. [101, 2006]

3.4.9.1 Design Fire Scenario. A fire scenario selected for evaluation of a proposed design. [914, 2001]

3.4.10* Fuel Load. The total quantity of combustible contents of a building, space, or fire area. [5000, 2006]

3.4.11 Incapacitation. A condition under which humans do not function adequately and become unable to escape untenable conditions. [101, 2006]

3.4.12 Input Data Specification. Information required by the verification method. [101, 2006]

3.4.13 Occupant Characteristics. The abilities or behaviors of people before and during a fire. [101, 2006]

3.4.14* Performance Criteria. Threshold values on measurement scales that are based on quantified performance objectives. [101, 2006]

3.4.15* Proposed Design. A design developed by a design team and submitted to the authority having jurisdiction for approval. [101, 2006]

3.4.16 Safe Location. A location remote or separated from the effects of a fire so that such effects no longer pose a threat. [101, 2006]

3.4.17 Safety Factor. A factor applied to a predicted value to ensure that a sufficient safety margin is maintained. [101, 2006]

3.4.18 Safety Margin. The difference between a predicted value and the actual value where a fault condition is expected. [101, 2006]

3.4.19 Sensitivity Analysis. See 3.4.2.1.

3.4.20 Stakeholder. An individual, or representative of same, having an interest in the successful completion of a project. [101, 2006]

3.4.21 Uncertainty Analysis. See 3.4.2.2.

3.4.22 Verification Method. A procedure or process used to demonstrate or confirm that the proposed design meets the specified criteria. [101, 2006]

Chapter 4 General Requirements

4.1* Goals and Objectives.

4.1.1* Goals. The goals of this *Code* shall be to provide a reasonable level of safety, property protection, and public welfare from the hazards created by fire, explosion, and other hazardous conditions.

4.1.2* Objectives. To achieve the goals stated in 4.1.1, the goals and objectives of 4.1.3 through 4.1.5 shall be used to determine the intent of this *Code*.

4.1.3* Safety. This *Code* shall provide for life safety by reducing the probability of injury or death from fire, explosions, or events involving hazardous materials.

4.1.3.1 Safety from Fire.

4.1.3.1.1* Safety-from-Fire Goals. The fire safety goals of this *Code* shall be as follows:

- (1) To provide an environment for the occupants in a building or facility and for the public near a building or facility that is reasonably safe from fire and similar emergencies
- (2) To protect fire fighters and emergency responders

4.1.3.1.2 Safety-from-Fire Objectives.

4.1.3.1.2.1 Buildings and facilities shall be designed, constructed, and maintained to protect occupants who are not intimate with the initial fire development for the amount of time needed to evacuate, relocate, or defend in place.

4.1.3.1.2.2* Buildings shall be designed and constructed to provide reasonable safety for fire fighters and emergency responders during search and rescue operations.

4.1.3.1.2.3 Buildings shall be designed, located, and constructed to reasonably protect adjacent persons from injury or death as a result of a fire.

4.1.3.1.2.4 Buildings shall be designed, located, and constructed to provide reasonable access to the building for emergency responders.

4.1.3.1.2.5* Operations shall be conducted at facilities in a safe manner that minimizes, reduces, controls, or mitigates the risk of fire injury or death for the operators, while protecting the occupants not intimate with initial fire development for the amount of time needed to evacuate, relocate, or defend in place.

4.1.3.2 Safety During Building Use.

4.1.3.2.1* Safety-During-Building-Use Goal. The safety-during-building-use goal of this *Code* shall be to provide an environment for the occupants of the building that is reasonably safe during the normal use of the building.

4.1.3.2.2 Safety-During-Building-Use Objectives.

4.1.3.2.2.1 Buildings shall be designed and constructed to reduce the probability of death or injury of persons from falling during normal use of the building.

4.1.3.2.2.2 Buildings shall be designed and constructed to provide for reasonably safe crowd movement during emergency and nonemergency conditions.

4.1.3.2.2.3 Buildings shall be designed and constructed to provide reasonable life safety for occupants and workers during construction and demolition.

4.1.3.2.2.4 Buildings shall be designed and constructed to provide reasonable notification to occupants of fire and other emergency situations.

4.1.3.2.2.5 Buildings shall be designed and constructed to provide reasonable signage and lighting to identify hazards, exits, means of egress, and other building safety features.

4.1.3.3 Safety from Hazardous Materials.

4.1.3.3.1 Safety-from-Hazardous-Materials Goal. The safety-from-hazardous-materials goal of this *Code* shall be to provide an environment for the occupants in a building or facility and to those adjacent to a building or facility that is reasonably safe from exposures to adverse affects from hazardous materials present therein.

4.1.3.3.2 Safety-from-Hazardous-Materials Objectives.

4.1.3.3.2.1 The storage, use, or handling of hazardous materials in a building or facility shall be accomplished in a manner that provides a reasonable level of safety for occupants and for those adjacent to a building or facility from health hazards, illness, injury, or death during normal storage, use, or handling operations and conditions.

4.1.3.3.2.2* The storage, use, or handling of hazardous materials in a building or facility shall be accomplished in a manner that provides a reasonable level of safety for occupants and for those adjacent to a building or facility from illness, injury, or death due to the following conditions:

(1) An unplanned release of the hazardous material

(2) A fire impinging upon the hazardous material or the involvement of the material in a fire

(3) The application of an external force on the hazardous material that is likely to result in an unsafe condition

4.1.4 Property Protection.

4.1.4.1 Property Protection Goal. The property protection goal of this *Code* shall be to limit damage created by a fire, explosion, or event associated with hazardous materials to a reasonable level to the building or facility and adjacent property.

4.1.4.2 Property Protection Objectives.

4.1.4.2.1* Prevention of Ignition. The facility shall be designed, constructed, and maintained, and operations associated with the facility shall be conducted, to prevent unintentional explosions and fires that result in failure of or damage to adjacent compartments, emergency life safety systems, adjacent properties, adjacent outside storage, and the facility's structural elements.

4.1.4.2.2* Fire Spread and Explosions. In the event that a fire or explosion occurs, the building or facility shall be sited, designed, constructed, or maintained, and operations associated with the facility shall be conducted and protected, to reasonably reduce the impact of unwanted fires and explosions on the adjacent compartments, emergency life safety systems, adjacent properties, adjacent outside storage, and the facility's structural elements.

4.1.4.2.3 Structural Integrity. The facility shall be designed, constructed, protected, and maintained, and operations associated with the facility shall be conducted, to provide a reasonable level of protection for the facility, its contents, and adjacent properties from building collapse due to a loss of structural integrity resulting from a fire.

4.1.4.2.4 Hazardous Materials. The facility shall be designed, constructed, and maintained, and operations associated with the facility shall be conducted, to provide reasonable property protection from damage resulting from fires, explosions, and other unsafe conditions associated with the storage, use, and handling of hazardous materials therein.

4.1.5 Public Welfare.

4.1.5.1* Public Welfare Goal. The public welfare goal of this *Code* shall be to maintain a high probability that buildings and facilities that provide a public welfare role for a community continue to perform the function for their intended purpose following a fire, explosion, or hazardous materials event.

4.1.5.2* Public Welfare Objective. Buildings and facilities that provide a public welfare role for a community shall be designed, constructed, maintained, and operated to provide reasonable assurance of continued function following a fire, explosion, or hazardous materials event.

4.2 Assumptions.

4.2.1* Single Fire Source.

4.2.1.1 The fire protection methods of this *Code* shall assume that multiple simultaneous fire incidents will not occur.

4.2.1.2 The single fire source assumption shall not preclude the evaluation of multiple design fire scenarios as required by Section 5.4.

4.2.2* Single Hazardous Material Release.

4.2.2.1 The protection methods of this *Code* shall assume that multiple simultaneous unauthorized releases of hazardous materials from different locations will not occur.

4.2.2.2 The single hazardous material release assumption shall not preclude the evaluation of multiple design scenarios as required by Section 5.4.

4.2.3* Incidents Impinging on Hazardous Materials. The protection methods of this *Code* shall assume that a fire, explosion, hazardous materials release, or external force that creates a dangerous condition has the potential to impinge on hazardous materials being stored, handled, or used in the building or facility under normal conditions. (See Section 5.4 for performance-based design scenarios.)

4.3 Compliance Options. Compliance with the goals and objectives of Section 4.1 shall be provided in accordance with either of the following:

- (1) The prescriptive-based provisions per 4.3.1
- (2) The performance-based provisions per 4.3.2

4.3.1 Prescriptive-Based Option.

4.3.1.1 A prescriptive-based option shall be in accordance with Chapter 1 through Chapter 4 and Chapter 10 through Chapter 73 of this *Code*.

4.3.1.2 Where specific requirements contained in Chapter 20 for occupancies differ from general requirements contained in Chapter 1 through Chapter 4 and Chapter 10 through Chapter 73, the requirements of Chapter 20 shall govern.

4.3.2 Performance-Based Option.

4.3.2.1 A performance-based option shall be in accordance with Chapter 1 through Chapter 5 of this *Code*.

4.3.2.2 Prescriptive requirements shall be permitted to be used as part of the performance approach, if they, in conjunction with the performance features, meet the overall goals and objectives of this *Code*.

4.4 Fundamental Requirements.

4.4.1 Multiple Safeguards.

4.4.1.1 The design of every building or structure intended for human occupancy shall be such that reliance for property protection and safety to life does not depend solely on any single safeguard.

4.4.1.2 Additional safeguard(s) shall be provided for property protection and life safety in the event that any single safeguard is ineffective due to inappropriate human actions, building failure, or system failure.

4.4.2 Appropriateness of Safeguards. Every building or structure shall be provided with means of egress and other safeguards of the kinds, numbers, locations, and capacities appropriate to the individual building or structure, with due regard to the following:

- (1) Characteristics of the occupancy
- (2) Capabilities of the occupants
- (3) Number of persons exposed
- (4) Fire protection available
- (5) Capabilities of response personnel
- (6) Height and type of construction of the building or structure

- (7) Other factors necessary to provide occupants with a reasonable degree of safety
- (8) Other factors necessary to protect the building and contents from damage

4.4.3 Means of Egress.

4.4.3.1 Unobstructed Egress.

4.4.3.1.1 In every occupied building or structure, means of egress from all parts of the building shall be maintained free and unobstructed.

4.4.3.1.2 No lock or fastening shall be permitted that prevents free escape from the inside of any building other than in health care occupancies and detention and correctional occupancies where staff are continually on duty and effective provisions are made to remove occupants in case of fire or other emergency.

4.4.3.1.3 Means of egress shall be accessible to the extent necessary to ensure reasonable safety for occupants having impaired mobility.

4.4.3.2 Awareness of Egress System.

4.4.3.2.1 Every exit shall be clearly visible, or the route to reach every exit shall be conspicuously indicated.

4.4.3.2.2 Each means of egress, in its entirety, shall be arranged or marked so that the way to a place of safety is indicated in a clear manner.

4.4.3.2.3 Lighting. Illumination of means of egress shall be provided. [See 5.3.4(10).]

4.4.4* Occupant Notification. In every building or structure of such size, arrangement, or occupancy that a fire itself could not provide adequate occupant warning, fire alarm systems shall be provided where necessary to warn occupants of the existence of fire.

4.4.5 Vertical Openings. Every vertical opening between the floors of a building shall be suitably enclosed or protected, as necessary, to provide the following:

- (1) Reasonable safety to occupants while using the means of egress by preventing spread of fire, smoke, or fumes through vertical openings from floor to floor to allow occupants to complete their use of the means of egress
- (2) Limitation of damage to the buildings and its contents

4.4.6 System Design/Installation. Any fire protection system, building service equipment, feature of protection, or safeguard provided to achieve the goals of this *Code* shall be designed, installed, and approved in accordance with applicable codes and standards referenced in Chapter 2.

4.5 General Requirements.

4.5.1 Authority Having Jurisdiction (AHJ).

4.5.1.1 The AHJ shall determine whether the provisions of this *Code* are met.

4.5.1.2 Where it is evident that a reasonable degree of safety is provided, any requirement shall be permitted to be modified if its application would be hazardous under normal occupancy conditions in the judgment of the AHJ.

4.5.2 Historic Structures and Cultural Resource Buildings. The provisions of this *Code* shall be permitted to be modified by the AHJ for buildings or structures identified and classified as historic structures in accordance with Section 20.17.

4.5.3 Provisions in Excess of Code Requirements. Nothing in this *Code* shall be construed to prohibit a better type of building construction, an additional means of egress, or an otherwise safer condition than that specified by the minimum requirements of this *Code*.

4.5.4 Conditions for Occupancy. No new construction or existing building shall be occupied in whole or in part in violation of the provisions of this *Code* unless the following conditions exist:

- (1) A plan of correction has been approved.
- (2) The occupancy classification remains the same.
- (3) No serious life safety hazard exists as judged by the AHJ.

4.5.5 Warrant of Fitness.

4.5.5.1 Where compliance with this *Code* is effected by means of a performance-based design, the owner shall annually certify compliance with the conditions and limitations of the design by submitting a warrant of fitness acceptable to the AHJ.

4.5.5.2 The warrant of fitness shall attest that the building features, systems, and use have been inspected and confirmed to remain consistent with design specifications outlined in the documentation required by 5.1.8 and 5.7.3 and that they continue to satisfy the goals and objectives specified in Section 4.1. (See 5.1.11.)

4.5.6 Construction, Repair, and Improvement Operations.

4.5.6.1 Buildings or portions of buildings shall be permitted to be occupied during construction, repair, alterations, or additions only where required means of egress and required fire protection features are in place and continuously maintained for the portion occupied or where alternative life safety measures and building protection measures acceptable to the AHJ are in place.

4.5.6.2 Escape Facilities.

4.5.6.2.1 In buildings under construction, adequate escape facilities shall be maintained at all times for the use of construction workers.

4.5.6.2.2 Escape facilities shall consist of doors, walkways, stairs, ramps, fire escapes, ladders, or other approved means or devices arranged in accordance with the general principles of the *Code* insofar as they can reasonably be applied to buildings under construction.

4.5.6.3 Flammable, hazardous, or explosive substances or equipment for repairs or alterations shall be permitted in a building while the building is occupied if the condition of use and safeguards provided do not create any additional danger or impediment to egress beyond the normally permissible conditions in the building and is such that materials are safeguarded when the building is unoccupied.

4.5.7* Changes of Occupancy.

4.5.7.1 In any building or structure, whether or not a physical alteration is needed, a change from one occupancy classification to another shall be permitted only where such a structure, building, or portion thereof conforms with the requirements of this *Code* that apply to new construction for the proposed new use, except as follows:

- (1) Where, in the opinion of the AHJ, the proposed occupancy or change in use is not more hazardous than the existing use, based on life safety and fire risk, the AHJ shall be permitted to approve such change of occupancy

provided compliance with the requirements of this *Code* for buildings of like occupancy or use are specifically incorporated to safeguard the life, health, and welfare of persons.

- (2) Change of tenants or ownership shall not be construed to be a change of occupancy classification where the nature of use and assigned occupancy classification remain the same.

4.5.7.2 Where specifically permitted elsewhere in the *Code*, existing construction features shall be permitted to be continued in use in conversions.

4.5.8 Maintenance, Inspection, and Testing.

4.5.8.1 Whenever or wherever any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature is required for compliance with the provisions of this *Code*, such device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or other feature shall thereafter be continuously maintained in accordance with applicable NFPA requirements or requirements developed as part of a performance-based design, or as directed by the AHJ. [101:4.6.12.1]

4.5.8.2 No existing life safety feature shall be removed or reduced where such feature is a requirement for new construction. [101:4.6.12.2]

4.5.8.3* Existing life safety features obvious to the public, if not required by the *Code*, shall be either maintained or removed. [101:4.6.12.3]

4.5.8.4 Any device, equipment, system, condition, arrangement, level of protection, fire-resistive construction, or any other feature requiring periodic testing, inspection, or operation to ensure its maintenance shall be tested, inspected, or operated as specified elsewhere in this *Code* or as directed by the AHJ. [101:4.6.12.4]

4.5.8.5 Maintenance, inspection, and testing shall be performed under the supervision of a responsible person who shall ensure that testing, inspection, and maintenance are made at specified intervals in accordance with applicable NFPA standards or as directed by the AHJ. [101:4.6.12.5]

Chapter 5 Performance-Based Option

5.1* General.

5.1.1 Application. The requirements of this chapter shall apply to facilities designed to the performance-based option permitted by Section 4.3.

5.1.2 Goals and Objectives. The performance-based design shall meet the goals and objectives of this *Code* in accordance with Section 4.1 and Section 4.2.

5.1.3* Approved Qualifications. The performance-based design shall be prepared by a person with qualifications acceptable to the AHJ.

5.1.4* Plan Submittal Documentation. When a performance-based design is submitted to the AHJ for review and approval, the owner shall document, in an approved format, each performance objective and applicable scenario, including any calculation methods or models used in establishing the proposed design's fire and life safety performance.