MEMORANDUM IN SUPPORT

TITLE

A local law to amend the New York city fire code, in relation to the advancement and regulation of energy storage systems and the adoption of current fire safety standards as incorporated in the 2015 edition of the international fire code.

PURPOSE AND BACKGROUND

The proposed local law would amend the New York City Fire Code. The current Fire Code originally was enacted by Local Law No. 26 of 2008 (effective July 1, 2008) and was codified (as amended) in Title 29 of the New York City Administrative Code. It was based on the 2003 edition of the International Fire Code (IFC), the model fire code published by the International Code Council, amended to reflect New York City's unique character and existing fire safety standards and requirements. It was the first comprehensive revision of the City's Fire Code in a century.

Administrative Code §29-104, enacted as part of Local Law No. 26 of 2008, requires that no later than the third year after the effective date of the Fire Code and every third year thereafter, the Fire Commissioner shall review the latest edition of the IFC and submit to the City Council such proposed amendments as he or she may determine should be made to the Fire Code based upon such edition of the IFC.

In accordance with Administrative Code §29-104, the Fire Department undertook a three-year code review process in consultation with representatives of the City Council, New York City Department of Buildings and industry, professional, trade and union organizations. This proposed local law would amend the Fire Code based on the 2012 and 2015 editions of the IFC and selected provisions of the 2018 IFC. In addition, certain proposed amendments are the result of "local initiatives" to update the Fire Code relating to issues and concerns that have arisen in New York city since enactment of the 2014 Fire Code.

SUMMARY OF PROVISIONS

The proposed local law contains five sections.

Section 1. Section 1 of the proposed local law sets forth the legislative intent underlying enactment of the law.

Section 2. Section 2 of the proposed local law renumbers thirty-five chapters of the current Fire Code (all of the current chapters commencing with Chapter 11) for the purpose of conforming to the IFC format and to facilitate the drafting of the amended Fire Code. Chapters 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37, 38, 39, 40,

41, 42, 43, 44 and 45 would be renumbered 20, 21, 22, 33, 24, 25, 26, 27, 28, 29, 30, 23, 32, 31, 34, 35, 50, 51, 37, 53, 54, 55, 56, 57, 58, 59, 60, 61, 62, 63, 64, 65, 66, 67 and 80, respectively.

This Memorandum in Support summarizes the substantive proposed amendments to the Fire Code and makes note of existing Fire Code requirements that would be renumbered, reorganized and/or relocated.

Section 3. Section 3 of the proposed local law sets forth the full text of the Fire Code (as currently codified in Chapter 2 of Title 29 of the Administrative Code and proposed to be amended by this local law), consisting of 80 chapters numbered 1 through 80 in accordance with the IFC format, and two appendices, Appendices A and B.

The proposed local law differs from the typical local law format because, like the New York City Construction Codes, the Fire Code is based on a model code and is intended to conform to its organization and format. Additional information is available in the Bill Drafting Manual (2d ed. 2018).[1] Deletions are shown in [brackets]; new text is underlined.

Because the entire Fire Code beginning with Fire Code Chapter 11 has been comprehensively renumbered to conform to the IFC format, and various sections relocated to conform with that format, much of the underlined text does not reflect substantive changes.

There are six general categories of non-substantive Fire Code amendments in the proposed local law:

1. **Renumbering of sections.** As amended, all Fire Code chapters and sections (prefaced with the designation "FC"), with the exception of FC Chapters 1 through 10, would be renumbered, to conform to the IFC format adopted with the 2012 edition. The following Fire Code chapters would be reserved for future use, consistent with the IFC format: FC Chapters 11-19, 38-39, 41-49, 52 and 68-79.

   Existing FC Chapters with current and new chapter numbers are listed in Attachment B, annexed to this Memorandum in Support.

2. **Chapters with no substantive changes.** The following nineteen Fire Code chapters contain no substantive changes: Chapters 7, 20, 25, 26, 29, 30, 31, 34, 36, 37, 55, 59, 60, 62, 63, 64, 65, 66 and 67. The only proposed amendments to these chapters are the renumbering of each chapter and the sections and cross-references within them.

3. **Renumbering of sections and cross-references.** As amended, cross-references to many FC sections would be changed to reflect the new numbering format. In most of these cases, only the first or second digits of the cross-reference, indicative of the applicable Fire Code chapter, would change. For example:

[1] *See* https://council.nyc.gov/legislation/wp-content/uploads/sites/55/2018/04/BDM-Final-2018-Version.pdf.

[1203.2.2] 2103.2.2 Spotting and pretreating operations. Spotting and pretreating operations conducted in accordance with [FC1206] FC2106 shall not affect the classification of the dry cleaning system or facility.

The above example demonstrates that this dry cleaning provision was previously included in Fire Code Chapter 12 as Section 1203.2.2. As amended, dry cleaning provisions would be set forth in Fire Code Chapter 21 and Section 1203.2.2 would be renumbered Section 2103.2.2. The provision also includes a cross-reference that would be renumbered. Neither change is substantive and such changes will not be addressed in further detail in this Memorandum in Support.

4. **Consolidation of Definitions.** Currently, all Fire Code defined *terms* are listed in Fire Code Chapter 2, but most of the actual *definitions* are set forth in individual Fire Code chapters. The proposed local law would amend the Fire Code to consolidate all definitions in Fire Code Chapter 2 to conform to the IFC format. The second section of each Fire Code chapter would retain a list of defined *terms* used in its respective chapter.

   All definitions moved to Fire Code Chapter 2 appear in the proposed local law to be new because they are underlined, in accordance with drafting requirements, even though no substantive changes are proposed. Definitions that are new or amended are summarized in Attachment A to this Memorandum of Support (see Fire Code Chapter 2).

5. **References to "commissioner."** Various references in the Fire Code to the "commissioner" (i.e., the Fire Commissioner) would be changed to "department" to clarify that the specified functions are routine department operations performed by department personnel.

6. **Correction of errors.** Various amendments have been proposed solely for editorial, formatting or grammatical purposes. These include incorrect capitalization and punctuation.

Set forth as Attachment A to this Memorandum in Support is a Detailed Summary of Fire Code Amendments, which summarizes the proposed substantive amendments to the Fire Code and makes note of existing Fire Code requirements that have been renumbered, reorganized and/or relocated. The summary is organized sequentially by proposed new chapter and section numbers. The section (or subdivision) heading is provided for convenient reference and in most cases to provide context. This summary is for informational purposes only. In the event such summary varies from the text of this local law, the local law governs.

Set forth as Attachment B to this Memorandum in Support is a Fire Code Chapter Cross-Reference Table, showing the current (2014) Fire Code chapter number and the amended (local law) Fire Code chapter number.

Section 4. Section 4 of the proposed local law provides that all actions and proceedings, civil or criminal, commenced prior to the effective date of this local law in accordance with any provision repealed by this local law and pending immediately prior to the taking effect of such repeal may be prosecuted and defended to final effect in the same manner as they might if those provisions

had not been repealed. This section serves to ensure continuity of enforcement of existing violations.

Section 5. Section 5 of the proposed local law provides that rules promulgated by the Fire Commissioner in accordance with the law in effect prior to the effective date of this local law shall remain in effect for the matters covered to the extent that such rules are not inconsistent with the Fire Code, as amended by this local law, unless and until such rules are amended or repealed by the Fire Commissioner. This section serves to ensure continuity of enforcement of existing rule requirements until such time as new rules or rule amendments are adopted.

Section 6. Section 6 of the proposed local law provides that, notwithstanding any other law or rule, tables, figures or equations in PDF or other electronic format to be added to the New York city fire code or amended pursuant to this local law need not be underlined to denote new matter being added. The absence of underlining to denote new matter being added shall not affect the validity of new tables, figures or equations in PDF or other electronic format to be added to the New York city fire code or amended pursuant to this local law. This provision has been included in part to facilitate the relocation of an existing figure, FC Figure 3203.7.4, to its correct location in the text.

Section 7. Section 5 of the proposed local law provides for the local law to take effect 90 days after enactment, except that Section FC511.7 of Fire Code Chapter 5 of the Fire Code would take effect one year from the date of adoption of a zoning amendment exempting storage spaces for pre-positioned Fire Department equipment from the calculation of the building floor area ratio. Section 5 also authorizes the Fire Commissioner to take, prior to such effective date of the local law, any actions necessary to the timely implementation of the local law, including the promulgation of rules.

REASONS FOR SUPPORT

Enactment of this proposed local law will serve to promote and enhance fire safety in New York City and fulfill the purposes underlying Local Law 26. Periodic amendment of the Fire Code to incorporate emerging national and international fire safety standards and technologies keeps it current and promotes transparency. It also affords the opportunity to address fire safety issues that have arisen since the enactment of prior versions of the Fire Code and the adoption of earlier editions of the model codes, upon which the Fire Code is based.

The proposed Fire Code will enhance the safety of the general public, firefighters, and other emergency response personnel. The Fire Code amendments that this proposed local law would enact will enable alternative energy sources and economic development consistent with the interests of fire safety, include the following:

1. The local law would comprehensively revise existing requirements for stationary energy storage systems and establish a regulatory framework that allows the introduction of new battery technologies in buildings while addressing the fire safety hazards associated with those technologies.

2. The local law would allow use of fuel cells and similar technology systems that use hydrogen to produce energy in hydrogen fuel gas rooms.

3. The local law would revise the requirements for combustible liquid motor fuel storage tanks to allow their use for biodiesel, currently allowed only by variance, subject to certain limitations designed to prevent leaks caused by chemical incompatibility.

4. The local law would allow fleet fueling (fueling of vehicle fleets in their lots directly from cargo tank trucks), currently allowed only by variance, which would eliminate unnecessary travel and fuel consumption in the fueling of vehicle fleets.

5. The local law would enact a new Fire Code chapter to regulate fire safety in distilleries, which manufacture and store distilled spirits, a flammable liquid. The new Fire Code chapter would regulate distilled spirts separately from other flammable liquids, facilitating (among other things) the development of distilleries seeking to operate tasting rooms in New York City's mixed-occupancy buildings.

6. The local law would revise sprinkler requirements for dry cleaning establishments to address the impact of environmental regulations requiring replacement of dry cleaning equipment. The proposed local law would adopt modified sprinkler requirements (partial sprinkler protection), currently allowed only by variance, for lawfully existing dry cleaning establishments undergoing alteration or replacement of equipment, including dry cleaners replacing perchloroethylene (PERC) equipment.

7. The local law would reorganize, clarify and update the regulations governing the storage, handling and use of explosives for blasting operations and fireworks displays, and pyrotechnic and non-pyrotechnic materials used for special effects. It includes new regulations to ensure accurate and professional monitoring of ground vibrations and air overpressure impacts during blasting operations.

ATTACHMENT A
TO MEMORANDUM IN SUPPORT

Detailed Summary of Fire Code Amendments

Set forth below is a detailed summary of Fire Code amendments in the proposed local law. This summary is for informational purposes only. In the event the description set forth in this summary varies from the text of this local law, the local law governs.

FIRE CODE

CHAPTER 1
ADMINISTRATION

SECTION FC 101
GENERAL

FC101.2(3). This section has been amended to simplify the scope of the Fire Code to include "non-fire emergencies," rather than enumerating various non-fire emergencies as currently set forth in FC101.2(3).

SECTION FC 102
APPLICABILITY

FC102.6.1.1 Construction codes and Electrical Code references. This section has been amended to clarify the circumstances in which the Fire Department may require proof of compliance with the Construction Codes and the Electrical Code, as currently authorized by the cross-reference to FC105.3.9, *i.e.,* in connection with permit issuance, plan approval or other department approval or authorization.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 104
DUTIES AND POWERS OF COMMISSIONER

FC104.1.2 Review of design and installation. This section has been amended to change "battery system" to "stationary energy storage system," which reflects the new terminology used throughout the Fire Code, as amended.

FC104.2.1 Acceptance of professional certification. This section has been amended to expand the qualifications of persons from whom the Fire Department may accept professional certification of compliance related to fire alarm system devices and equipment. In addition to registered architects and professional engineers, certified fire alarm installers and licensed electricians are authorized to professionally certify additions and modifications to fire alarm systems (non-core components) to enable the Fire Department to better manage its fire alarm system inspection and approval process.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 105
PERMITS AND OTHER APPROVALS

FC105.1.1 Permits required. This section has been amended to omit redundant language relating to the posting of permits. Such requirements are set forth in FC105.3.5.

FC105.1.2 Types of permits. This section has been amended in response to a Federal regulatory ruling related to the Fire Department's authority to permit the transportation of hazardous materials. Pursuant to this ruling, the local law eliminates transportation permits and regulates. transportation of hazardous materials in connection with operations requiring a citywide permit.

FC105.1.4 Reserved. The requirements of this section have been repealed after having been rendered redundant by FC105.4.4, as amended by Local Law No. 195 of 2018. As amended, the section has been reserved.

FC105.4 Design and installation documents. This section has been amended to reorganize, in alphabetical order, the various design and installation documents required to be filed for Fire Department approval. As amended, the installations set forth below have been added to the list of required design and installation document filings. These installations are either newly-regulated by the Fire Code or reflect the codification of current design and installation document submission requirements. Filing of roof access plans, currently limited to rooftops requiring a variance, has been included to ensure compliance with rooftop access requirements.

- Automated parking garages (FC611)
- Auxiliary radio communication (ARC) systems (FC510) (existing requirements from rules)
- Distilleries (Fire Code Chapter 40)
- Emergency alarms (FC908):
    - Flammable alcohol vapor (FC4003)
    - Gaseous hydrogen (FC5808)
    - Lighter-than-air motor fuels (FC 2308, 2309 and 2311)
- Energy storage systems, stationary (FC608.6)
- Fire command centers (FC907)
- Hydrogen fuel gas rooms (FC5808)
- Repair garages for vehicles fueled by lighter-than-air motor fuels (FC2301)
- Roof access (altered roofs) (FC504).

FC105.4.1 Submissions. This section has been amended to clarify the Fire Department's authority to require online submissions of design and installation documents, consistent with the Fire Department's ongoing modernization of its filing procedures.

FC105.4.4.2 Method of approval. This section has been amended to current terminology, "letter of acceptance," for plan approvals, as opposed to a "letter of approval," which is issued for installations approved after a Fire Department inspection or test.

FC105.4.4.4 Authorization to perform work. This section has been amended to address certain procedural issues that have arisen since the enactment of Local Law No. 195 of 2018, which previously amended this section. In the past, Fire Department approval of design and installation documents (plan approval) was sufficient to authorize commencement of work under the Fire Code because the applicant would also file with the Department of Buildings for a work permit. The Department of Buildings would undertake to confirm compliance with various procedural requirements, including asbestos certifications and landmarks and licensing laws, among other things. With the enactment of Local Law No. 195 of 2018, certain systems are not being filed with the Department of Buildings, and the Fire Department has assumed responsibility for confirming compliance with those procedural requirements, as set forth in FC105.4.4.1. The section has been amended to provide that where Fire Department approval of design and installation documents is for devices, equipment, systems or facilities that do not require a Department of Buildings work permit, commencement of the work may be made contingent on subsequent issuance of a project authorization following submission of contractor licensing information and such other information and documentation as may be required in accordance with FC105.4.4.1.

FC105.4.7 Retention of design and installation documents. This section has been amended to clarify that approved design and installation documents, which are required to be kept at the work site, must bear the Fire Department stamp or other indicia of approval and be kept available until the Fire Department inspects or otherwise approves the installation and/or work.

FC105.6 Required permits. This section has been amended to add new permit requirements for the following materials, operations and facilities: establish and operate automotive salvage and wrecking facilities; establish and operate a distillery; hot work permit for use of any open flame in a torch-applied roof system and public demonstration of hot work, other than in an accredited educational institution or program; hot work permit for flammable gas without oxygen and electric arc systems limited to construction sites where a Department of Buildings work permit is required (not mobile uses); establish and operate a hydrogen fuel gas room.

This section has also been amended to revise existing permit requirements for the following materials, operations and facilities: alcohol-based hand rubs (clarify and distinguish between consumer product and bulk packaging, consistent with existing guidance); auxiliary radio communication (ARC) systems (existing requirements from rules); carbon dioxide (storage of more than 3500 SCF in a low-pressure carbon dioxide beverage dispensing system); fleet fueling (from existing Fire Department practice); gasoline (storage and use in quantities exceeding 2½ gallons in a single item of lawfully stored portable fueled equipment, or an aggregate of 10 gallons in all such portable fueled equipment stored at a premises) (FC313); special effects (Fire Code Chapter 56) to conform to revised special effects regulations; stationary energy storage systems (FC608) (in part from existing Fire Department rule 3 RCNY 608-01); and transportation of hazardous materials (incorporated into citywide permit) (FC105.1.2).

FC Table 105.6(1) Permit quantities for compresses gases. The table has been amended to establish quantities of certain compressed gases that require a Fire Department permit, *i.e.,* liquefied petroleum gas and acetylene at construction sites, and carbon dioxide associated with low-pressure carbon dioxide beverage dispensing systems.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 107
MAINTENANCE

FC107.1 Maintenance required. This section has been amended to reorganize and clarify periodic maintenance requirements, including inspection and testing, to ensure proper operation. The existing requirements of FC107.2 have been incorporated into FC107.1. As amended, the section clarifies that fire apparatus access roads and required signage must be maintained in good working order.

FC107.2 Reserved. The requirements of this section have been incorporated into and clarified by FC107.1 and FC107.5, as amended, and the section has been reserved.

FC107.5 Owner/occupant responsibility. This section has been amended to incorporate language from FC107.2 and clarify that owners must conduct any and all inspections and tests necessary to maintain the building in a safe condition.

FC107.7 Recordkeeping. This section has been amended to clarify the Fire Department's authority to require online electronic filing of maintenance records, consistent with the Fire Department's ongoing modernization of its filing procedures.

All other amendments to this section have been made solely for editorial, formatting, and/or grammatical purposes.

SECTION FC 109
VIOLATIONS

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 111
ORDER TO DISCONTINUE WORK

FC111.1 Order. This section has been amended to clarify the Fire Department's authority to order discontinuance of work by defining the term "work" to include any regulated material, operation or facility.

SECTION FC 112
CERTIFICATE OF APPROVAL

FC112.1 Approval of articles, equipment and devices. This section has been amended to consolidate existing Certificate of Approval requirements set forth throughout the Fire Code. It also incorporates into the Fire Code Certificate of Approvals for the following regulated materials and installations: stationary energy storage systems (storage battery unit and mobile systems) (from existing Fire Department rule 3 RCNY 608-01 and FC608 as amended); high and/or low explosive products, devices, and firing systems in connection with blasting (from existing Fire Department

practice); commercial cooking exhaust systems emission control devices and ductless hoods (from existing Fire Department practice). The section has also been amended to require certificates of approval for the following regulated materials and installations: radio consoles and base stations for in-building auxiliary radio communication systems (FC510); and distillery stills (FC4004).

FC112.9 Maintenance on premises. This section has been added to the Fire Code to require a copy of the Certificate of Approval be maintained at the premises for review by persons installing, operating or maintaining the article, equipment or device, and for inspection by any representative of the department.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 116
EXPEDITOR REGISTRATION CERTIFICATES

FC116.1 Registration. This section has been amended to add to the list of individuals that are exempt from obtaining an expeditor registration certificate to include fire alarm installers holding a Certificate of Fitness for professional certification (eligible persons include fire alarm installers licensed by New York State and holding a NICET-III certificate, and electricians licensed in New York City by the Department of Buildings).

CHAPTER 2
DEFINITIONS

SECTION FC 202
DEFINITIONS

FC202 Definitions. This section has been amended to consolidate all defined terms and definitions in Fire Code Chapter 2, to conform to the International Fire Code (IFC) format.

Energy Storage Systems

FC202 has been amended to include new terminology and definitions associated with energy storage systems, regulated by FC608, as amended, and Fire Department rules. As amended, the section contains a new term, *stationary energy storage system*, and distinguishes among an *indoor* system, a *mobile system,* and an *outdoor system.*

The section has been amended to delete the term *stationary storage battery.* As amended, the section contains a new term, *storage battery,* and reorganizes and clarifies various types of storage batteries. As amended, the definition of *storage battery* encompasses existing definitions for lithium-ion battery, lithium metal polymer battery, nickel-cadmium (Ni-Cd) battery, nonrecombinant battery, recombinant battery, valve-regulated lead-acid (VRLA) battery, and vented (flooded) lead-acid battery. The section has been amended to add three additional types of storage battery: *flow battery, lead-acid battery, and nickel metal hydride (NiMH) battery*.

The section has also been amended to include definitions for *dedicated use building, kilowatt hours (kWh); megawatt hours (MWh);* and *storage battery unit.*

Distilleries

FC202 has been amended to include definitions associated with distilleries, which are regulated by Chapter 40, as amended. FC202, as amended, incorporates new defined terms to clarify the various processes and stages of alcohol stored, handled, and used at distilleries, and the devices, equipment, and systems associated with distilleries. As amended, the defined terms are: *alcohol storage area; alcohol storage equipment (*including *alcohol storage tank; barrel; and intermediate bulk container); beverage alcohol (*including *distilled spirits; finished goods; process alcohol; raw alcohol); distilled spirits processing area; distillery (small, medium, large); distillery equipment (*including *alcohol process tank, open and closed,* and *still); distillery operations (*including *alcohol processing, bottling, and distilling); distillery serving area;* and *distillery waste products.*

The section has also been amended to include a definition for *chemical storage building,* which may increase storage options for New York City based-distilleries.

Commercial Cooking

FC202 has been amended to include definitions associated with commercial cooking, which is regulated by the Fire Code and Fire Department rules. Such new terminology and definitions added to this section are *commercial kitchen; cooking oil;* and *ductless hood.*

The section has also been amended to include definitions for *domestic cooking hood* and *domestic cooking system*, which are addressed for the first time in the Fire Code.

Blasting and Blast Vibration Monitoring

FC202 has been amended to add new terms and definitions related to *blasting operations* and *blast vibration monitoring*, which are regulated by Fire Code Chapter 50, as amended. Such new terminology and definitions added to this section are *blast monitoring certificate; blast monitoring specialist; blasting seismograph; frequency; geophone; global strain method (global shear wall strain; global tensile wall strain; and strain); ground vibration; intensity; microphone;* and *peak particle velocity (PPV).*

The section has been amended to delete the term *airblast* and replace it with *air overpressure* to conform to industry terminology.

The section has been amended to delete the term *assistant blaster* and replace it with *apprentice blaster* to conform to industry terminology.

The section has been amended to delete the redundant term *danger zone,* which has been eliminated from the Fire Code, as amended, in favor of the existing term *blast area*.

Special Effects

FC202 has been amended to add new terms and definitions for *pyrotechnic, pyrotechnic effect simulation, pyrotechnic effect simulation equipment, pyrotechnic special effect; non-pyrotechnic special effect;* and *pyrotechnic special effects contractor certificate.*

The section has been amended to delete the term *pyrotechnic supplier certificate,* which has been replaced by the term *pyrotechnic special effects contractor certificate*.

Miscellaneous Terms

FC202 has been amended to include the following new definitions:

- *approved testing laboratory*. This term, which refers to organizations that test and list devices, equipment and systems, has been updated and amended to reference testing laboratories approved by the Department of Buildings.

- *automated container exchange system.* This term refers to an installation used at mercantile establishments to sell liquefied petroleum gas (LPG) containers and accept returned containers.

- *binary explosive.* This term refers to a type of explosive material.

- *biodiesel.* This term refers to a type of fuel produced from organic materials.

- *combustible gas detector.* This term refers to a device that detects certain gases.

- *dedicated use building.* This term refers to a building housing an energy storage system that is not designed for human occupancy.

- *deflagrable wood dust*. This term refers to a type of combustible dust.

- *encapsulation.* This term refers to a type of high-piled combustible storage.

- *fleet fueling.* This term refers to a type of vehicle fueling, in which motor fuel is transferred directly from a cargo tank truck.

- *fire pump.* This term refers to building service equipment that provides water for fire protection and firefighting purposes.

- *gaseous hydrogen.* This term refers to the type of hydrogen generated in hydrogen fuel gas rooms.

- *high-rise megastructure.* This term refers to buildings of a certain height, which are subject to certain additional Fire Code regulations.

- *hot tapping.* This term refers to hot work on a tank or piping that is in service and contains a flammable or combustible liquid.

- *hydrogen fuel gas room.* This term refers to a room where gaseous hydrogen is generated for immediate on-premises use in fuel cells or other energy production processes.

- *hyperbaric facility.* This term refers to a place housing a hyperbaric chamber (used to generate pressures above normal atmospheric pressure) for medical applications and procedures.

- *main entrance.* This term refers to the primary way to enter and egress from a dwelling unit in a multiple dwelling.

- *master fire suppression piping contractor.* This term, which refers to a Department of Buildings license, is defined by reference to the Building Code.

- *natural vegetation.* The term refers to live plants used indoors for decorative purposes or otherwise.

- *place of assembly.* The term refers to a type of occupancy. It is currently used but not defined in the Fire Code. As amended, the section conforms the definition with Building Code regulations.

- *powered mobility devices.* The term refers to motorized bicycles, motorized scooters and other personal mobility devices powered by a lithium-ion or other storage battery.

- *proof of compliance*. This term refers to Fire Department-issued tags and labels, used to confirm inspection, testing and/or other maintenance by licensed businesses of devices, equipment and systems regulated by the Fire Code.

- *staged evacuation.* This term refers to a type of building evacuation, used in connection with the fire drills and emergency preparedness plans in Fire Code Chapter 4.

- *water mist system.* This term refers to a type of fire extinguishing system.

FC202 has also been amended to delete the following terms:

- *CNG motor fuel system.* This term has been deleted because it is not used in the Fire Code, currently or as amended, and there are separate definitions for the terms *CNG* and *motor fuel.*

- *material safety data sheet (MSDS).* This term has been deleted and replaced with *safety data sheets (SDS)* to conform to current United States Occupational Safety and Health Administration (OSHA) terminology.

- *private* street. This term has been deleted as redundant because private streets are incorporated in the defined term *private road*.

- *speed bump.* This term has been deleted and replaced with *traffic calming devices,* a more encompassing term that includes speed bumps and one that is commonly used in highway design.

FC202 has also been amended to revise the following terms:

- *flammable liquid*. This term has been revised to include a definition of a Class I liquid, and to clarify the references in the definition to Classes IA, IB and IC (flammable) liquids.

- *labeled*. This term has been revised by deleting the reference to a listing, as not all labels are for listed devices, equipment or systems.

- *open flame*. This term has been revised to further clarify and distinguish open flames from open fires and portable fueled equipment.

- *scenery.* This term has been revised to implement Local Law 34 of 2021 and ensure that scenery at *production locations* is subject to the requirements of Fire Code Chapter 8.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 3
GENERAL PRECAUTIONS AGAINST FIRE

SECTION FC 302
DEFINITIONS

302.1 Definitions. The section, as amended, adds two new terms defined in Fire Code Chapter 2: powdered mobility device; and production location. As amended, the following terms have been deleted and incorporated into Fire Code Chapter 36 (Marinas): *float; marina; pier; vessel; wharf.*

SECTION FC 307
OPEN FIRES

FC307.1 General. This section has been amended to add an exemption to the prohibition on open fires to allow the lighting of charcoal for hookah use on the premises of non-tobacco hookah establishments in accordance with FC310 and the rules. This amendment conforms the section to the requirements of Local Law No. 187 of 2017.

SECTION FC 308
OPEN FLAMES

This section has been comprehensively reorganized and revised to clarify the requirements for open flames, and to distinguish them from open fires and portable fueled equipment. The section has also been amended to adopt common-sense fire safety requirements for open flame use in occupancies other than places of assembly.

FC 308.2 Use of open flames. This section formerly set forth prohibitions, which are now set forth in FC308.3. As amended, this section distinguishes open flames from stationary appliances regulated by the construction codes, and from portable fueled devices, equipment and systems regulated in FC313.

FC308.3 Prohibitions. This section formerly set forth requirements for the use of open flames, which are now set forth in FC308.5. As amended, this section sets forth existing prohibitions on the use of open flames formerly set forth in FC308.2 and 308.5. It also adds a prohibition against lighting and releasing or allowing to become airborne any lantern, balloon, or other item or craft containing or fueled by a flame or other heat-producing material, except for balloon operations authorized by Fire Code Chapter 20 and other operations authorized by the Fire Department.

FC308.4 General safety precautions. This section formerly set forth provisions relating to use of torches for removing paint, which have been moved to FC313, the section regulating portable fueled equipment. As amended, the section sets forth the requirement that, when use of open flames is allowed, all safety precautions appropriate to the circumstances shall be observed, including six listed fire safety precautions, that are designed to reduce the incidence of fires.

FC308.5 Use of open flames in assembly occupancies and places of public gathering. This section formerly set forth provisions relating to use of signals and markers, which have been moved to FC308.3. As amended, this section sets forth the existing requirements for use of open flames in assembly occupancies and places of public gathering, formerly set forth in FC308.3, with amendments to the provisions relating to the dispensing of alcohol or other flammable or combustible liquid and the ignition and serving of flaming food and beverages to clarify and conform them to current practices. The amended section also requires that any staff serving flaming food or beverages be trained and knowledgeable in the safe ignition and handling of such food or beverages.

FC308.6 Alcohol-fueled decorative open-flame devices. This section formerly set forth provisions relating to portable fueled open-flame devices, which have been incorporated into FC313. As amended, this section sets forth requirements for the design, installation, operation and maintenance of alcohol-fueled decorative open-flame devices. As amended, the section makes it unlawful to install or use a stationary or portable alcohol-fueled open-flame device in a Group A, E or I occupancy, and public gathering spaces and to use portable alcohol-fueled open-flame devices in Group R occupancies. The design and installation requirements set forth in the amended section include listing by a nationally recognized testing laboratory; the use of solid fuel or closed transfer of liquid fuel; a means of manually extinguishing the flame, a maximum fuel capacity; protection against movement and air drafts; and ensuring adequate ventilation. The fire safety precautions set forth in the amended section include operating the device in accordance with manufacturer's instructions; not leaving the device unattended; installing a smoke alarm and a carbon monoxide alarm, or detectors; a portable fire extinguisher; and fuel storage requirements.

SECTION FC 309
POWERED INDUSTRIAL TRUCKS, EQUIPMENT AND MOBILITY DEVICES

The title of this section has been amended to include reference to a new term, *powered mobility devices*. The section has been comprehensively reorganized and revised for clarity, to incorporate requirements for powered mobility devices, and distinguish them from the requirements for fueled and battery-powered industrial trucks and equipment. As amended, the section includes new regulations for powered mobility devices designed to prevent fires associated with the charging of lithium-ion batteries, which are commonly used in e-bikes and other powered mobility devices.

FC309.1 General. This section has been amended to include powered mobility devices. Requirements formerly contained in this section have been moved to FC309.2.

FC309.2 Powered industrial trucks. This section formerly set forth provisions relating to battery chargers which have been moved to FC309.3. As amended, this section sets forth design and operational requirements for powered industrial trucks and equipment fueled by flammable or combustible liquids or flammable gases. The section incorporates the requirements formerly set forth in FC309.1, relating to hazardous locations and flammable gas fuel; FC309.5, relating to fueling, hydrogen fueling, and container replacement; FC309.6, relating to repairs; and FC309.7 relating to storage.

FC309.3 Battery-powered industrial trucks, industrial equipment and mobility devices. This section formerly was limited to provisions relating to ventilation for battery-charging areas. As amended, this section has been expanded to incorporate fire safety provisions relating to battery-powered industrial trucks, equipment and mobility devices, including an inspection prior to charging or re-charging if the battery has been dropped, involved in a collision or otherwise subjected to a potential mechanism of damage. The section has also been amended to adopt Referenced Standards and other new requirements to address the charging and storage of e-bikes, scooters and other powered mobility devices, including: adoption of Underwriters Laboratory (UL) standards for charging equipment; fire safety regulations for rooms in which six or more powered mobility devices are being charged; and fire safety regulations in which six or more powered mobility devices are being stored but not charged. The amended section exempts storage and charging in a Group R-3 occupancy or in a dwelling unit in a Group R-2 occupancy of not more than five powered mobility devices using a storage battery, provided that such devices are for personal use; and charging of a single powered mobility device by and in the presence of its owner or user.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 310
SMOKING

FC310.2 Prohibitions. This section has been amended to prohibit smoking in a lumber yard or woodworking facility as set forth in FC2803.5.

FC310.7.3 Use of charcoal or other material for smoking paraphernalia. The section has been amended to conform the requirements for storage of hookah charcoal in non-tobacco hookah establishments to the newly-revised regulations for the storage of solid fuel set forth in FC315, as amended. The requirements for charcoal preparation in such establishments have been amended to conform to existing charcoal preparation practices. The portable fire extinguisher requirement has been amended to conform to current fire extinguisher types.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 312
VEHICLE IMPACT PROTECTION

FC312.3 Other barriers. This section has been amended to delete prescriptive design requirements and instead require vehicle impact protection barriers to be designed in a manner consistent with anticipated impact scenarios.

FC312.4 Fire apparatus access. The section has been added to require removable posts and other barriers where fire apparatus access would be obstructed or impeded.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 313
PORTABLE FUELED EQUIPMENT

FC313.3 Prohibitions. This section has been amended to clarify that a portable fueled device, equipment, or system generating a flame is prohibited indoors, unless installed in accordance with the Construction Codes, or unless subject to an exception set forth in the amended section.

FC313.7 Torches. This section has been amended to clarify existing requirements pertaining to indoor use of torches.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 314
INDOOR DISPLAYS

FC314.4 Vehicles and watercraft. The section has been amended to modernize safeguards for indoor display of motor vehicles, including adoption of appropriate safeguards for electric vehicles and gaseous-fueled vehicles.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 315
COMBUSTIBLE MATERIALS STORAGE AND OTHER STORAGE HAZARDS

The section has been amended and retitled to incorporate "other storage hazards" for clarity.

FC315.2 Storage in buildings. The section has been amended to clarify that combustible materials must be stored in a stable manner. As amended, the section authorizes the Fire Department to allow storage of noncombustible materials to the ceiling when such storage is within 30 inches of a fire partition.

FC315.3 Outdoor storage. This section has been reorganized and amended for clarity and to reflect current standards for outdoor storage of combustible materials, such as those used in commercial kitchens and other places of business regulated by the Fire Code. As amended, the section does not allow outdoor storage within ten feet of buildings of combustible construction, and building openings, and under eaves, awnings and other overhangs. The twenty-foot height restriction set forth in the section has also been amended to reference zoning requirements, which may be stricter.

FC315.6 Storage in plenums. This section has been added to prohibit combustible storage (including abandoned wiring) in ceiling plenum spaces.

FC315.7 Storage of solid fuel. This section has been added to clarify and revise the restrictions on storage of solid fuel combustibles, including wood and charcoal used in restaurants and non-tobacco hookah establishments. As amended, the section expands the locations in which solid fuel can be stored indoors and outdoors in suitable containers, storage cabinets and/or sprinklered spaces. As amended, the section establishes limits related to indoor storage of solid fuel in Group R-2 occupancies.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 317
AUTOMOTIVE SALVAGE AND WRECKING FACILITIES

FC317.3 Supervision. As amended, the section adds a requirement that design, installation, operation and maintenance of automotive salvage and wrecking facilities must be under the personal supervision of a Certificate of Fitness holder. As amended, the section cross-references requirements related to hot work at such facilities.

FC317.7 Airbags. This section has been added to establish new storage, handling, and disposal requirements for undeployed waste airbags, consistent with Federal and State regulations.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 319
RESERVED

The requirements of this section have been moved to Fire Code Chapter 36 to conform to the IFC format. As amended, this section has been reserved.

CHAPTER 4
EMERGENCY PLANNING AND PREPAREDNESS

SECTION FC 401
GENERAL

FC401.2.2 Signage. This section has been amended to simplify signage requirements in various occupancies for reporting a fire or other emergency. As amended, signage must specify "911," but borough-specific Fire Department dispatch telephone numbers have been eliminated from the requirement. Additionally, as amended, the section allows the sign to include an additional telephone number for secondary reporting of an emergency.

FC401.3.2.1 Multi-building campus plans. The section has been added to authorize the fire commissioner to approve an emergency preparedness plan for multiple buildings situated on an educational or health care campus in lieu of an individual emergency preparedness plan typically required for each occupancy.

FC401.3.4 Building information card and floor plans. The section has been amended to clarify the requirement that a building information card, if amended, must be submitted to the Fire Department for review and approval, as set forth in Fire Department rules.

FC401.3.6.2 Updating of existing fire safety and evacuation plans. This section sets forth provisions for the transition from separate fire safety and non-fire emergency plans to consolidated, comprehensive fire safety/emergency action plans. The deadlines set forth in the section have passed, and any outstanding plan that has not transitioned to the new plan requirements would not be compliant with the Fire Code.

FC401.3.7 Existing emergency preparedness staffing. The section has been amended to refer to the effective date of this section, March 30, 2014, to amend the reference to two-way voice communication to a staged evacuation sequence, and to amend the reference to a specific level of staffing in favor of a reference to staffing in accordance with the chapter and the rules.

FC401.4 Comprehensive fire safety/emergency action plan (Level 1). The section has been amended to enhance the caption and expressly refer to existing sections and subsections.

FC401.5 Fire and emergency preparedness plan (Level 2). The section has been amended to enhance the caption and expressly refer to existing sections and subsections.

FC401.5.4 Submission and acceptance. The section has been amended to reorganize and clarify the Fire Department's authority to require electronic filing of emergency preparedness plans, building information cards, building floor plans, and other documentation. As amended, the

section also specifies that emergency preparedness plans for certain high-rise and large-area buildings need not be submitted to the Fire Department for approval.

FC401.6 Fire and emergency preparedness guide and notices (Level 3). The section has been amended to enhance the caption and expressly refer to existing subsections and the rules.

FC401.6.4 Distribution and posting. The section has been amended to clarify that the fire and emergency preparedness notice (not the guide) must be posted as specified.

FC401.7 Drills and education for fire and non-fire emergencies. The section has been amended to restore separate fire and non-fire emergency drills and education (consistent with existing practice), rather than the combined drills in the existing section. As amended, Group R-2 apartment buildings and occupancies are not required to conduct drills, with the exception of high-rise megastructures, and student apartment buildings, consistent with Building Code fire alarm system requirements for such occupancies and the New York State Education Law.

FC401.7.2 Reserved. As amended, the requirements of this section have been eliminated to conform to the requirements of FC401.7, as amended, and the section has been reserved.

SECTION FC 402
DEFINITIONS

The section has been amended to place the term *fire drill* in alphabetical order. The section has been amended to add the term *staged evacuation*, which has been incorporated from the rules.

SECTION FC 404
OFFICE BUILDINGS

FC404.2.1 Comprehensive fire safety/emergency action plan (Level 1). The section has been amended to clarify the exception for certain office buildings and occupancies from Level I plan requirements, namely those with lawfully installed fire alarm systems that lack voice communication capability.

SECTION FC 405
HOTELS, MOTELS AND OTHER TRANSIENT RESIDENTIAL OCCUPANCIES

FC405.2.2 Fire and life safety staff. As amended, the section changes the term *brigade* to *staff* to conform to Fire Code terminology.

FC405.3.2 Fire and emergency preparedness staff. As amended, the section revises the exception to staffing for Level 2 emergency preparedness plans to clarify that in prior code buildings, the required staffing shall be maintained if the fire alarm system approved is with staged evacuation.

FC405.4.1 Comprehensive fire safety/emergency action plan (Level 1). The section has been amended to require that the filing requirement for high-rise homeless shelters is applicable to Group I-1 homeless shelters.

FC405.4.4.1 FEP coordinator and shelter coordinators. The section has been amended to clarify the roles of the FEP coordinator and shelter coordinators in homeless shelters. As amended, the section removes the requirement for deputy shelter coordinators and requires the FEP coordinator or the shelter coordinator be present in the building when the building is occupied.

SECTION FC 406
APARTMENT BUILDINGS

FC406.2.2 Non-sequential or non-standard floor numbering. The section has been amended to reduce the height of Group R-2 (apartment) buildings, from 150 to 125 feet, required to electronically file a floor numbering list if the building has non-sequential or non-standard floor numbering. This provision is designed to facilitate firefighting or other emergency response operations in such buildings.

FC406.2.4 Fire and emergency preparedness plan (Level 2) and fire and emergency preparedness staff. The section has been added to establish emergency preparedness plan and staffing requirements for high-rise megastructures.

FC406.3 Responsibility of cooperative or condominium apartment owners. The section has been amended to require that owners and proprietary lessees allow representatives of the building's management access to their individual dwelling units, upon reasonable notice, for purposes of confirming such owners and proprietary lessees' compliance with requirements in the section. This amendment is intended to ensure that fire safety notices have been posted on the apartment door in each apartment.

SECTION FC 407
ASSEMBLY OCCUPANCIES

407.4 Seating plan. As amended, the section requires electronic submission of the existing filing requirement.

SECTION FC 410
EDUCATIONAL OCCUPANCIES

FC410.3.1 Comprehensive fire safety/emergency action plan (Level 1). As amended, the section revises filing requirements for emergency preparedness Level I plans to require them only in educational occupancies with staged evacuation (rather than those with voice communication capability only).

FC410.4.1 Fire and emergency preparedness plan (Level 2). This section has been amended to require a fire and emergency preparedness plan (Level 2) plan for: large-area Group B educational building (as well as high-rise buildings); low-rise Group E educational buildings (as well as high-rise buildings); high-rise Group R-2 student apartment buildings, without staged evacuation; and certain low-rise Group R-1 and low-rise Group R-2 student apartment buildings and occupancies.

FC410.4.2 Fire and emergency preparedness staff. The section has been amended to require that Group R-2 student apartment buildings required to have a fire and emergency preparedness

plan have a Certificate of Fitness holder present during regular business hours for emergency announcements as may be required by the rules.

FC410.5 Emergency preparedness in dormitories without fire and emergency preparedness plans. This section has been amended to require Group R-2 student apartment buildings and occupancies that are not subject to FC 410.4 (Level II plan) to prepare a fire and emergency preparedness guide and notices.

SECTION FC 413
HOSPITALS, NURSING HOMES AND OTHER PATIENT AND RESIDENTIAL CARE FACILITIES

FC 413.1 General. The section has been amended throughout to require FEP (Level 2) plan and staffing requirements for ambulatory care facilities, which are now classified under the Building Code as Group B (office) occupancies.

CHAPTER 5
FIRE OPERATIONS FEATURES

SECTION FC 502
DEFINITIONS

FC502.1. This section has been amended to include a new term, *high-rise megastructure*, and to add *traffic calming devices* in lieu of *speed bump* (which has been deleted).

SECTION FC 503
FIRE APPARATUS ACCESS

FC503.2.5 Obstruction. This section been amended to conform terminology. As amended, the section clarifies that roadway width and vertical clearance must be maintained at all times unless prior approval is granted by the Fire Department.

FC503.2.9 Dead-end roads. This section has been amended to expand the options for providing fire apparatus egress on dead-end roads. In addition to turnarounds, the section, as amended, allows the Fire Department to approve additional means by which fire apparatus can exit a dead end when turnarounds are impracticable, including use of a building entrance driveway; garage or loading dock entrance driveway; open plaza; planted open space utilizing vehicle load-bearing permeable paving materials; parking lot lane; or other driveway or lane leading to a separate through road.

FC503.3.1 Dead-end turnarounds. The section, as amended, conforms this section to the alternative dead-end solutions provided for in FC503.2.9, as amended.

SECTION FC 504
BUILDING AND ROOFTOP ACCESS

FC504.4.1 Rooftop access. This section has been amended to add a provision requiring that a rooftop parapet or other perimeter railing or barrier be designed to facilitate the safe dismounting

of a firefighter from an aerial ladder. Any such parapet, barrier or railing on a building constructed after the effective date of this section, or installed pursuant to a work permit issued by the Department of Buildings after such date, must meet certain design standards and, if the height of the rooftop parapet, railing or other enclosure is more than 48 inches, an approved landing platform and steps or ladder shall be provided to allow a firefighter to safely dismount and descend to the rooftop.

FC504.4.3 Rooftop access landings. This section has been amended to clarify the required 9-foot height of a rooftop access landing, consistent with existing practice.

FC504.4.4 Rooftop clear path. This section has been amended to clarify the required distance between clear paths and to reference rooftop stationary energy storage systems. As amended, the section also requires, on buildings constructed after the effective date of this section, reasonable access from the clear path, to the maximum extent practicable, to windowed areas on any side of the building that is not fire apparatus accessible.

The section has also been amended to provide that the rooftop surface serving as the clear path must not be constructed of glass or other transparent or translucent material, nor shall it require a firefighter to walk upon any flush-mounted solar panels or other energized equipment.

The section has also been amended to provide that rooftop stationary energy storage systems be designed and installed in accordance with FC608 and the rules, including ensuring that the deflagration zone is not in the clear path and the exhaust system does not vent into the clear path.

The section has also been amended to reference the requirements of FC504.4.1(8) with respect to wind turbines and other equipment with moving components,

FC504.4.8 Rooftop access underneath cantilevered or overhead buildings. This section has been amended to establish vertical clearances for firefighting operations where a building is constructed directly above another building, including a building cantilevered over another building. As amended, the section requires Fire Department review and approval of design and installation documents documenting compliance with this section, including the fire analysis filed with the Department of Buildings.

FC504.4.9 Group R-3 occupancies with shallow-pitched roofs. This section has been amended to exclude from rooftop access requirements one and two-family homes (Group R-3 occupancies) with a roof pitch of 9.5 degrees or more, which instead are to comply with FC512.3.

FC504.4.10 Rooftop telecommunications installations. The section has been renumbered and amended to add a new provision requiring that transmitting antennas and other rooftop installations subject to radiofrequency radiation exposure limits, as set forth in the regulations of the Federal Communications Commission, be installed in a manner that complies with the applicable exposure limits, including those applicable to rooftop access, landing, clear path and clearance areas and other rooftop areas to which the general population has uncontrolled access. As amended, the section requires that documentation of compliance be submitted to the Fire Department with rooftop access applications and upon request in connection with rooftop access inspections. The section has also been amended to require that if a transmitting antenna is enclosed or screened, certain required markings be placed on the exterior of the enclosure or screening. The section has

also been amended to require that signage with contact information be placed near the main building electrical panel, on the side of the bulkhead or rooftop hatch.

FC504.4.13 Maintenance of rooftop building features. This section has been added to clarify that rooftop installations must not obstruct the function, use or accessibility of any rooftop building features, including those listed in FC504.4.4(2), and to require that those building features be maintained in good working order to facilitate firefighting operations.

FC504.5 Rooftop access on buildings more than 100 feet in height. This section has been added to require, to the maximum extent practicable, a clear path from the bulkhead or other point of rooftop access to the rooftop perimeter on any side of the building that has windows, complying with FC504.4.4, on buildings more than 100 feet in height constructed after the effective date of this section.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 506
KEYS AND KEY ACCESS

FC506.2 Citywide-standard keys. This section has been amended to clarify that all locks required to be operable by the citywide-standard key shall also be operable by the fire department standard key. The amendment specifies that access to a fire department standard key shall be in accordance with FC506.4, as amended.

FC506.3 Access to citywide standard keys. The section has been amended to authorize possession of the citywide standard key for building owners, impairment coordinators, and persons authorized to install or maintain in-building auxiliary radio communication systems.

FC506.4 Access to fire department standard keys. The section has been amended to clarify that the right to possess and use a citywide-standard key does not confer the right to possess or use a fire department standard key. The amendment further clarifies that licensed locksmiths are authorized to use the fire department standard key to verify the operability by such key as required by FC506.2 of locks and devices required to be operable by a citywide-standard key, but are not authorized to provide a fire department standard key to any unauthorized person for such purpose.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 507
FIRE PROTECTION WATER SUPPLIES

Existing Fire Code section FC508, Fire Protection Water Supplies, has been moved to this section to conform to the IFC format. This section, formerly reserved, has been amended to incorporate each section of former FC508. The section has not been substantively amended.

SECTION FC 508
RESERVED

This section, formerly entitled "Fire Protection Water Supplies," has been deleted in its entirety and reserved. The provisions of the section have been moved to FC507 to conform to the IFC format.

SECTION FC 509
FIRE PROTECTION AND UTILITY EQUIPMENT IDENTIFICATION AND ACCESS

Existing Fire Code section FC510, "Fire Protection and Utility Equipment Identification and Access," has been moved to this section to conform to the IFC format. This section, formerly reserved, has been amended to incorporate each section of former FC510. The section has not been substantively amended.

SECTION FC 510
IN-BUILDING AUXILIARY RADIO COMMUNICATION SYSTEMS

Existing Fire Code section FC511, "In-Building Auxiliary Radio Communication Systems," has been moved to this section to conform to the IFC format. This section, formerly entitled "Fire Protection and Utility Equipment Identification and Access," has been amended to incorporate each section of former FC510. The section has not been substantively amended.

SECTION FC 511
HIGH-RISE MEGASTRUCTURE FIRE OPERATIONS

The provisions of this section, formerly entitled "In-Building Auxiliary Radio Communication Systems," have been moved to Fire Code section FC510 to conform to the IFC format. This section has been amended and titled "High-Rise Megastructure Fire Operations."

FC511.1 General. A new section has been added, establishing design, installation, operation and maintenance requirements of high-rise megastructures, to facilitate firefighting operations.

FC511.2 Supervision. A new section has been added to require that a person holding a Certificate of Fitness for emergency announcements be present on the premises at all times when the building is occupied (unless staffed by an FLS director). In a mixed-occupancy, each occupancy with its own voice communication capability must be staffed by the required Certificate of Fitness holder or FLS director.

FC511.3 Building information card. A new section has been added to require that a building information card be prepared and maintained at the fire command center or other approved location.

FC511.4 Emergency preparedness. A new section has been added to establish requirements for emergency preparedness plans, and to require that a Level 2 plan be prepared for Group R-2

occupancies. Additionally, the new section requires that all emergency preparedness plans in a mixed-occupancy high-rise megastructure be coordinated in accordance with FC416.

FC511.5 Fire command center. A new section has been added to require that fire alarm system control panels be installed in accordance with fire command center requirements, as set forth in FC907.4.

FC511.6 Standpipe elevation markings. A new section has been added to require markings, on or adjacent to standpipe hose outlets, specifying the elevation above grade of each floor level.

FC511.7 Storage space for pre-positioned department equipment. A new section has been added to require space to be provided in a storage room, mechanical room or other approved, enclosed, secure storage location in a high-rise megastructure for the sole purpose of storing Fire Department equipment. The new section requires that such space be provided for every 150 feet in elevation more than 420 feet above the lowest level of fire apparatus access, at a location near the fire service access elevator or a stairwell. The section requires each space to be at least 8 feet long by 8 feet wide by 8 feet high and openable by Fire Department key only (unless otherwise approved). The new section allows, upon reasonable notice to the Fire Department, owner access to the space for inspection, building maintenance or other legitimate business purpose. The new section requires the space to be protected by a sprinkler system, unless otherwise approved by the Fire Department. Each storage space must be identified by a sign or marking in accordance with the rules identifying it as a Fire Department equipment room.

Section 5 of this local law makes this provision effective one year from the date of adoption of a zoning amendment exempting storage spaces for pre-positioned Fire Department equipment from the calculation of the building floor area ratio.

The storage spaces required by this section are an operational requirement that applies to existing buildings. In existing buildings that are unable to comply with this requirement because they do not have suitable floor space, the new section allows suitable storage in alternative locations, as approved by the Fire Department.

FC511.8 Access to elevator shafts. The new section has been added to require that new buildings provide firefighter access to the blind portion of elevator hoistways, via an emergency hoistway door, at least every 30 feet wherever the floor height of the surrounding space exceeds 30 feet.

SECTION FC 512
ROOFTOP SOLAR PANEL INSTALLATIONS

FC512.2 Flat-roofed buildings and structures 100 feet or less in height. This section has been amended to incorporate, as an exception to a requirement that solar panel installations not obstruct any rooftop area to which access is required pursuant to FC504.4, an existing practice allowing encroachments resulting from certain building features and building service equipment that constitute permanent obstructions. As amended, the section allows such permanent obstructions to encroach upon and, for the distance of the obstruction, reduce the clear path width up to two feet but may not reduce the width of the clear path at any point to less than 4 feet and may not encroach upon the rooftop landing areas required by FC504.4.3.

CHAPTER 6
BUILDING SERVICES AND SYSTEMS

SECTION FC 601
GENERAL

The section has been amended throughout to replace the term *stationary storage battery systems* (and *battery systems*) with new Fire Code terminology, *stationary energy storage systems*.

FC601.4.3 Stationary energy storage systems. This section has been amended to refer to FC608.7 with respect to supervision of stationary storage battery systems.

FC601.4.4 Commercial cooking systems. This section has been added to include supervision of commercial cooking systems to the list of Fire Code Chapter 6 supervision requirements, by reference to FC609.3, which sets forth Certificate of Fitness requirements for commercial cooking exhaust systems. These supervision requirements were formerly set forth in FC901.3.3.

SECTION FC 602
DEFINITIONS

FC602.1 Definitions. The section has been amended to include the following terms: *approved testing laboratory*; *commercial cooking system*; *commercial kitchen*; *cooking oil*; *dedicated use building; ductless hood*; *energy storage system, stationary*; *kilowatt hours (kWh)*; *megawatt hours (MWh)*; and *proof of compliance*.

The section has also been amended to add the term *storage battery unit* and otherwise conform the definitions relating to storage batteries to the terminology uses in FC608, as amended.

SECTION FC 603
FUEL-FIRED APPLIANCES AND EQUIPMENT

FC603.9.2 Gas meter identification. The section has been amended to facilitate firefighting and emergency response operations where multiple gas meters are installed. The section requires that each gas meter have a sign or marking identifying the apartment, dwelling unit, or other occupancy or area served by the gas meter. If more than 12 gas meters are installed at a single location in a non-sequential manner, the gas meters must be numbered sequentially and a table posted listing apartment/room numbers in sequential order and next to each the associated gas meter identification number.

SECTION FC 604
EMERGENCY POWER SYSTEMS

FC604.5 Supervision. The section has been amended to expand the list of qualified professionals who can personally supervise the inspection, testing and other maintenance of emergency power systems to include a person holding a Certificate of Fitness as an FEP coordinator.

SECTION FC 606
REFRIGERATING SYSTEMS

FC606.1 General. The section has been amended to incorporate by reference the industry standard applicable to the design, installation, operation and maintenance of refrigerating systems, ASHRAE Standard 15. The section has been further amended to incorporate by reference the industry standards promulgated by the International Institute of Ammonia Refrigeration (IIAR) applicable to the design, installation, operation and maintenance of ammonia refrigerating systems, except as modified by the Mechanical Code.

FC606.11 Discharge and termination of pressure relief devices. The section has been amended to clarify the requirements for the discharge from, and termination of, pressure relief devices connected to refrigerating systems containing flammable refrigerants. As amended, the section lists and makes reference to the section numbers setting forth the different means of discharge of vapor from ammonia refrigerating systems and authorizes the Fire Department to approve other means.

FC606.11.6 Ammonia diffusion systems. The section has been amended to correct an error in the metric equivalent of the quantity of water required for ammonia diffusion systems.

SECTION FC 607
ELEVATORS IN READINESS

FC607.1 Phase I emergency recall operation and Phase II emergency in-car operation. The section has been amended to clarify that elevators intended for use by emergency personnel for firefighting or rescue purposes must be operable with a citywide standard key in accordance with FC506.2.1.

FC607.5 Water protection of hoistway enclosures. The section has been amended to require maintenance of Department of Buildings-approved building design features intended to provide water protection for elevator hoistways. The 2014 Building Code requires water protection for fire service access elevators and occupant evacuation elevators but does not address maintenance of these features.

SECTION FC 608
STATIONARY ENERGY STORAGE SYSTEMS

The section entitled “Stationary Storage Battery Systems,” has been repealed and replaced by a new FC608, entitled “Stationary Energy Storage Systems.” As amended, the new section comprehensively regulates indoor and outdoor energy storage systems (ESS). It addresses the fire safety and explosion hazards presented by lithium-ion and other new battery technologies. The new regulatory framework incorporates various existing requirements for outdoor stationary energy storage systems set forth in Fire Department rule 3 RCNY Section 608-01 (“outdoor ESS rule”).

FC608.1 Scope. As amended, the section governs all indoor and outdoor stationary energy storage systems, including emergency power, standby power, uninterruptible power and mobile systems.

FC608.2. General. As amended, the section specifies the provisions of law applicable to the design, installation, operation, and maintenance of stationary energy storage systems: FC608, Fire Department rules, manufacturer's specifications, and, to the extent not inconsistent with the Fire Code and Fire Department rules, NFPA 855, as modified by FC Appendix B.

FC608.3 Permits. As amended, the section references FC105.6, which requires a permit for all indoor systems (except Group R-3 occupancies) and for all outdoor systems more than 20 kWh.

FC608.4 Testing and listing standards. As amended, the section requires all stationary energy storage systems to be tested and listed by a nationally recognized testing laboratory, including Underwriters Laboratories (UL) Standard 9540, Test Method 9540A and other related UL listing standards. Any stationary energy storage system technology or application not subject to one or more of the listing standards must comply with such other testing or listing standards as may be approved by the Fire Department.

A stationary energy storage system listed under 2016 edition prior to the effective date of the new Fire Code may be considered for a Certificate of Approval if the listing is still valid and full-scale testing was conducted as required by FC608.4.2.

Additionally, a stationary energy storage system approved by the Fire Department under a listing standard superseded by a later edition may continue to be operated under such listing standard and Fire Department Certificate of Approval, provided that the listing is still valid and except as may be required by the Fire Department in accordance with FC102.5, which sets forth Fire Code compliance requirements for lawfully existing conditions.

Finally, the section, as amended, anticipates the development of listing standards with installation conditions based on the testing data. If such installation conditions meet with approval by the Fire Department and the Department of Buildings, the approved listing standard and listings will supersede the equipment approval process set forth in FC608.5 and, to the extent addressed in such approved listing, the required separation distances.

FC608.5 Equipment approval. As amended, the section requires the manufacturer of every storage battery unit to obtain a Fire Department Certificate of Approval for such unit in accordance with FC112 and Fire Department rules. Application for a Certificate of Approval requires submission of the results of the full-scale testing of the storage battery unit in accordance with FC608.4.2. This process will enable the Fire Department to assess the hazards that can be anticipated if the storage battery fails; whether the manufacturer has designed the energy storage system with appropriate safety measures; and whether additional safeguards are required and/or occupancy or other limitations should be placed on its installation or use. Accordingly, the Certificate of Approval may set forth terms and conditions for stationary energy storage system use, and may authorize below-grade installation, or indoor installation in Group R-3 occupancies, based on the hazards demonstrated by the full-scale testing data and the mitigation thereof.

FC608.6 Installation approval. As amended, the section specifies when the design of a stationary energy storage system installation must be reviewed and approved by the Fire Department.

When an indoor system uses equipment not approved by the Fire Department, or when such equipment deviates from the terms and conditions of a Certificate of Approval, the indoor system

must be reviewed and approved by the Fire Department. Otherwise, indoor system installation will be reviewed and approved by the Department of Buildings in accordance with that agency's requirements, and Fire Department review and approval will be limited to monitoring systems and other fire safety measures, such as the energy storage management system, monitoring stations, smoke control and smoke purge systems and explosion mitigation. In addition, the Fire Department will review and approve fire alarm and gas detection systems and such other fire protection and hazard mitigation systems and measures as are required to be reviewed by the Fire Department pursuant to the Fire Code or the Construction Codes.

Outdoor systems, including mobile and rooftop systems, must be reviewed and approved by the Fire Department as set forth in Fire Department rules.

FC608.7 Supervision. The section, as amended, requires indoor and outdoor stationary energy storage systems to be operated and maintained under the general supervision of a person holding a Certificate of Fitness for stationary energy storage systems, except as may be otherwise provided in the rules. In addition, the section requires that an FLS director, FEP coordinator, Certificate of Qualification holder or other responsible person with approved qualifications be on the premises during the regular business hours in any building with an indoor system of 1 MWh or more. Such on-site personnel shall be responsible for coordinating with the Certificate of Fitness holder and the remote monitoring facility supervising the system in accordance with the emergency management plan. As amended, the section also sets forth the qualifications and responsibilities for a person holding a Certificate of Fitness for a stationary energy storage system.

FC608.8 Emergency management plan. As amended, the section requires development of an emergency management plan or protocol, by the owner, manufacturer and/or installer, to designate responsibility for management of emergencies arising from the operation of a stationary energy storage system. The plan must include procedures for notifications, provision of technical assistance to the Fire Department, mitigation of hazardous conditions, and decommissioning or restoration to normal operation.

The emergency management plan will serve to ensure that, in the event of a fire or other emergency, persons knowledgeable about the stationary energy storage system and capable of interpreting the battery readings received by the remote monitoring facility are available to render assistance to the Fire Department. Additionally, the emergency management plan will serve to ensure that, once the immediate emergency is resolved, there is in place a plan to monitor a damaged system, repair it and/or safely decommission it and remove it from the premises.

FC608.9 Design and installation. As amended, the section sets forth design and installation requirements for stationary energy storage systems.

FC608.9.1 Maximum aggregate rated energy capacity. As amended, the section specifies maximum aggregate rated energy capacity of indoor stationary energy storage systems, set forth in FC Table 608.9.1.1. The maximum aggregate rated energy capacity of outdoor systems shall be as approved by the Fire Department, unless otherwise prescribed by Fire Department rule.

FC608.9.2 Energy storage management system monitoring. As amended, the section requires all stationary energy storage systems to be designed with an energy storage management system that transmits data about system status and temperature to a remote monitoring facility or other

approved location. Indoor systems shall be provided with an approved remote monitoring station at the building's fire command center and/or other approved location.

FC608.9.3 Fire protection and hazard mitigation. As amended, the section establishes requirements for fire protection systems/measures, explosion mitigation, ventilation system, spill containment and emergency power.

FC608.9.4 Location. As amended, the section sets forth location requirements for indoor and outdoor systems.

FC608.9.4.1 Indoor systems. As amended, the section prohibits indoor systems below grade except when approved by the Fire Department and located in a dedicated use building. This restriction is included because of the difficulty of fighting a below-grade fire.

Except for indoor systems serving building fire and life safety systems (as set forth in FC608.9.4.1.9), indoor systems are allowed only in fully-sprinklered buildings, with enhanced sprinkler protection required in control areas. This is to ensure that a stationary energy storage system fire is contained in the well-constructed control area (battery room) but that if it does manage to escape from the battery room, the building is capable of continuing to put water on the fire to suppress it or prevent its further spread.

Except for indoor systems serving building fire and life safety systems (as set forth in FC608.9.4.1.9), indoor systems may be installed in Group A, Group R-1, Group R-2 and Group I buildings and occupancies only when the building is of noncombustible construction. This is to ensure that if a stationary energy storage system fire manages to escape from the battery room, the building structure is fire-resistant.

Except for indoor systems serving building fire and life safety systems, and indoor systems for business operations with an energy capacity of up to 70 kWh, all control areas must be designed and constructed as a high-hazard occupancy space.

Any control area housing a stationary energy storage system must be protected by a fire alarm system or a dedicated smoke detection system and must be equipped with ventilation systems designed for high-hazard occupancies in accordance with the Construction Codes. Such ventilation systems must be adequate to exhaust any flammable or other gases generated during the normal operation and/or failure of the stationary energy storage system. This is to ensure that the concentration of flammable gases does not reach a level where there could be an explosion.

Control areas must also be provided with a means to control leaks and spills, as certain battery technologies use liquid electrolytes.

The section also mandates that all required fire protection and hazard mitigation systems be provided with an emergency power system in accordance with the Building Code.

The section sets forth exceptions (relating to sprinkler protection, building construction, and control areas) for indoor systems serving building fire and life safety systems, and indoor systems for business operations with an energy capacity of up to 70 kWh. The first exception recognizes the all buildings, including unsprinklered buildings of combustible construction will likely

require emergency power for building fire and life safety systems and that high-hazard occupancy space may be impracticable and/or unduly costly to provide in such buildings. The second exception similarly allows stationary energy storage systems of a limited size to provide power for business operations in such buildings, again because of the potential need for emergency power or uninterruptable power supply in such businesses. This section allows installation of lead acid battery systems and nickel-cadmium battery systems for such purposes, and, where approved by the Certificate of Approval based on their testing results, other types of energy storage systems.

FC608.9.4.2 Outdoor systems. As amended, the section requires all outdoor systems, including reach-in and walk-in facilities and mobile systems, to be designed and installed in accordance with the Fire Department rules. Rooftop systems with an aggregate rated energy capacity exceeding 400 kWh, other than lead acid battery systems, may be installed only on the rooftops of buildings of noncombustible construction.

FC608.10 Commissioning and decommissioning. As amended, the section addresses requirements for placing stationary energy storage systems into service and removing them from service (commissioning and decommissioning). It incorporates by reference NFPA Standard 855, as modified by FC Appendix B. The section serves, among other things, to ensure that stationary energy storage systems are installed and operated in accordance with New York City requirements; that the Fire Department receives notice of the installation for operational awareness and familiarization; and that if damaged or at the end of life, the system is safely decommissioned and removed from the premises.

FC608.11 Operation and maintenance. As amended, the section establishes operation and maintenance requirements for stationary energy storage systems. These requirements largely derive from those currently applicable to outdoor systems, as set forth in the outdoor ESS rule.

FC608.11.1 Remote monitoring of energy storage management system and reporting. As amended, the section requires the owner of a stationary energy storage system to arrange for continuous monitoring of energy storage system by a remote monitoring facility staffed by trained and knowledgeable persons retained by the manufacturer or installer of the system. This is accomplished using the required energy storage management system, which continuously monitors and transmits measurements of energy storage system performance. When a stationary energy storage system installed in New York City exceeds or appears likely to exceed thresholds at which fire, explosion or other serious adverse consequences may result, the section requires remote monitoring staff to promptly notify the Fire Department, the Certificate of Fitness holder, and a subject matter expert with technical knowledge of the system and its operation.

FC608.11.2 Central station monitoring of fire protection systems. As amended, the section requires that all fire protection systems protecting the stationary energy storage system installation be monitored by an approved central station in accordance with regular Fire Code and Building Code requirements.

FC608.11.3 Signage. The section, as amended, authorizes the Fire Department to establish by rule requirements for stationary energy storage system identification and operation, including signs or markings indicating required warnings, location of controls, emergency shut down procedures, energy storage management system monitoring facility and other emergency contact information.

FC608.11.4 Maintenance. The section, as amended, requires the owner of a stationary energy storage system to ensure that it is periodically inspected, tested, serviced and otherwise maintained in accordance with manufacturer's specifications and the Fire Code by a person trained and knowledgeable in the specific system. As amended, the section authorizes the Fire Department to prescribe by rule periodic inspection requirements.

FC608.11.5 Restoration to service after serious failure. As amended, the section requires that a stationary energy storage system that has been removed from service after a serious failure be evaluated and, if necessary, repaired or replaced, by a trained and qualified person. The section provides that the system cannot be restored to service until it has been recommissioned by the Certificate of Fitness holder responsible for it.

FC608.11.6 Replacement components. As amended, the section specifies whether and when Fire Department review and approval is required for replacement of storage battery units or other stationary energy storage system components.

FC608.12 Recordkeeping. As amended, the section sets forth written records to be maintained and kept by the Certificate of Fitness holder and by the owner or operator of the stationary energy storage system.

FC608.13 Group R-3 occupancies. As amended, the section establishes separate design and installation and supervision requirements for indoor and outdoor stationary energy storage systems installed in or on the premises of one and two-family homes (Group R-3 occupancies). Separate standards are appropriate given the fundamental differences in construction and occupancy as compared to commercial buildings and multiple dwellings.

The section requires that stationary energy storage systems installed at Group R-3 occupancies be operated and maintained under the general (not personal) supervision of a Certificate of Fitness holder. This reflects the small size of such residential installations and the lack of on-premises staffing.

The section extends the prohibition on below grade stationary energy storage systems to Group R-3 occupancies, except as approved by the Fire Department.

Given the combustible construction of many Group R-3 occupancies, the combustible nature of most home furnishings, its use for sleeping and the presence of vulnerable occupants, the section requires that any stationary energy storage system installed in a dwelling meet the highest safety standards. The section requires that a Fire Department Certificate of Approval authorizing use inside a dwelling must be based on a UL9540 listing meeting the performance-cell level test requirements of UL9540A, or as otherwise approved by the Fire Department pursuant to FC608.5. The reference to other approved criteria will give the Fire Department the flexibility to adopt a subsequent standard that reflects improvements in battery technology or other considerations.

The section requires systems installed inside a dwelling to be protected by a one-hour fire barrier and equipped with an energy storage management system. Indoor systems must otherwise be located, installed and protected in accordance with the Construction Codes, the Electrical Code, and Fire Department rules.

The section specifies the maximum rated energy capacity of any individual storage battery (20 kWh) and the maximum aggregate rated energy capacity of any energy storage system based upon where it is installed. Systems installed within a dwelling may not exceed 20 kWh except as approved by the Fire Department. Systems installed within an attached garage, or mounted outdoors on an exterior wall of such a dwelling or attached garage, may not exceed 40 kWh per dwelling, provided that there is an approved fire barrier separating such system from the dwelling unit, or other approved measure based on the full-scale testing results of the energy storage system. Systems installed in a detached garage, or mounted on an exterior wall thereof, may not exceed 40 kWh.

The section provides that outdoor systems are to be designed and installed in accordance with Fire Department rules (including the existing outdoor ESS rule).

SECTION FC 609
COMMERCIAL COOKING SYSTEMS

The chapter has been comprehensively reorganized and revised to clarify requirements and reference fire extinguishing system requirements in Fire Code Chapter 9. The existing FC609.1 through FC609.7 have been deleted and replaced with amended sections FC 609.1 through 609.10, as set forth below.

New and revised definitions have been incorporated, including "commercial kitchen," to clarify the application of the existing commercial cooking permit.

FC609.1 General. The section is unchanged, although for drafting purposes it was deleted and re-inserted.

FC609.2 Unlawful operation. The section has been retitled and incorporates existing prohibitions currently set forth in FC609.3.1. As amended, the section incorporates the new Fire Code term, *commercial kitchen*. As amended, the section makes it is unlawful to use an appliance in a commercial kitchen that is not an approved commercial cooking appliance, or use a portable fueled device, unless otherwise authorized by the Fire Department. As amended, the section makes it unlawful to operate a commercial cooking appliance when excessive grease accumulation on or in such appliance or in the commercial cooking exhaust system makes operation unsafe.

FC609.3 Supervision. The section has been retitled and incorporates existing requirements from FC609.3.2 and FC901.6.3.3. As amended, the section incorporates into the Fire Code the requirement of Fire Department-issued proof of compliance to confirm periodic cleaning of commercial cooking exhaust systems by a company holding a Fire Department certificate. Proof of compliance requirements have been incorporated from existing Fire Department rule 3 RCNY 115-02. They were adopted to deter unlicensed and unprofessional cleaning of commercial cooking exhaust systems and facilitate enforcement of proper cleaning of commercial cooking exhaust systems. Infrequent or inadequate cleaning of such systems will result in grease accumulation in exhaust ducts, which is a cause of fires. Because exhaust ducts may pass through other occupancies, a duct fire may extend to, and cause substantial damage to occupancies other than the restaurant.

FC609.3.1. Cleaning of commercial cooking exhaust system. As amended, the section incorporates existing requirements from FC609.4.1. The section allows approved ductless hoods to be inspected and cleaned by the owner or trained and knowledgeable employees of the owner.

FC609.3.1.1 Commercial cooking cleaning company. As amended, the section incorporates into the Fire Code from existing Fire Department rule 3 RCNY 115-02 the requirement that commercial cooking exhaust systems be inspected, cleaned, and serviced only by a company holding a Fire Department company certificate.

FC609.3.1.2 Certificate of fitness. As amended, the section clarifies existing supervision requirements, consistent with existing Fire Department guidance, that all persons engaged in the cleaning of commercial cooking exhaust systems, including any individual who assists in such cleaning, must hold a Certificate of Fitness for that purpose.

FC609.3.2 Commercial cooking fire extinguishing system. As amended, the section incorporates existing maintenance requirements for fire extinguishing systems protecting commercial cooking systems from Fire Code Chapter 9. As amended, the section now requires that such maintenance be performed by a master fire suppression piping contractor holding a Certificate of Fitness for such purpose, or (in accordance with FC904.5.2, as amended) a person holding a Certificate of Fitness under the supervision and direction of such license holder.

FC609.4 Commercial cooking appliances. The section has been retitled and incorporates existing requirements set forth in FC609.2 related to design and installation of commercial cooking systems (now referred to as commercial cooking appliances) and associated fire extinguishing systems.

FC609.4.1 Design and installation. The section has been retitled and incorporates existing requirements set forth in FC609.2 requiring commercial cooking appliances and fire extinguishing systems to be designed and installed in accordance with the construction codes, including the Mechanical Code and Fuel Gas Code, and the Electrical Code. As amended, the section clarifies that commercial cooking appliances cannot be relocated, or replaced with appliances utilizing a different power source, change in gas valve, or other change affecting the design of the commercial cooking fire extinguishing system, without prior approval of the Fire Department.

FC609.4.2 Solid fuel commercial cooking operations. The section, as amended, incorporates requirements previously set forth in FC609.5, and incorporates by reference NFPA 96 related to the use of solid fuel for flavor enhancement, including the use of a listed smoker box.

FC609.4.3 Movable commercial cooking appliance markings. The section has been added to require that the proper location of commercial cooking appliances be outlined on the floor in durable 1-inch (25-mm) wide yellow line markings or other approved means. Movable appliances must be in the designated positioned at their designated locations before cooking commences.

FC609.5.1.1 Exhaust hoods. The section has been retitled and amended to incorporate design and installation requirements for Type I hoods. As amended, the section sets forth an existing requirement from FC901.4.5(2) that prefabricated hoods be of a type for which a Fire Department Certificate of Approval has been issued in accordance with FC112 and the rules. As amended, the

section requires that exhaust hoods, once installed, must not be painted, and scratch protection sheeting must be removed.

FC609.5.1.2 Exhaust ducts. As amended, the section incorporates existing installation requirements from FC609.2.2.2 related to cleanout openings for commercial cooking exhaust ducts. The section has been amended to authorize the Fire Department to require installation of additional access panels if there is inadequate access to conduct a proper cleaning of the system. From time to time, commercial cooking exhaust system cleaning companies have made the Fire Department aware of such a condition, which makes it impossible for them to conduct a proper cleaning of the entire system, and which they are incapable of rectifying. The section responds to owner concerns by requiring the Fire Department to give the owner notice and an opportunity to be heard prior to ordering compliance with any determination to provide additional access panels. The section also requires the Fire Department to evaluate objections asserted on the basis on engineering considerations and impracticability, and address proposed alternatives.

FC609.5.1.3 Emission control devices. The section has been added to incorporate an existing Fire Department requirement that a Fire Department Certificate of Approval be obtained for precipitators or other emission control devices, when required by the Air Pollution Code, in accordance with the Fire Code and the rules. Such precipitators themselves become a location for grease accumulation and their installation may affect air flow in the exhaust system.

FC609.5.1.4 Ductless hoods. The section has been added to incorporate an existing Fire Department requirement that a Fire Department Certificate of Approval be obtained for ductless hoods in accordance with the Fire Code and the rules. Ductless hoods are rangehoods equipped with fans and internal ducts that are designed to capture grease vapors without the need for overhead ducts.

FC609.5.1.5 Grease filters. As amended, the section sets forth an existing requirement from FC901.4.5(2) that grease filters be of a type for which a Fire Department Certificate of Approval has been issued in accordance with FC112 and the rules. This existing requirement serves to ensure that such filters are effective and allow ready access for regular cleaning.

FC609.5.2 Operation. As amended, the section incorporates existing operating requirements from FC609.3.4. It also uses new Fire Code terminology, commercial cooking appliance, which is clear and reflects industry parlance. As amended, the section clarifies that an exhaust system must continue to operate when the fire extinguishing system is activated unless it was designed and approved to shut off. Additionally, as amended, the section specifies that emission control devices may shut off in the event of fire if designed and approved to do so.

FC609.5.2.2 Maintenance of airflow. As amended, the section incorporates existing requirements from FC609.3.4. As amended, the section authorizes the Fire Department to require testing in accordance with the Mechanical Code if, upon inspection, the exhaust airflow appears to be insufficient to allow proper exhausting of grease vapors, steam, fumes, smoke and/or odors.

FC609.5.2.5 Combustible materials. The section has been added to codify a basic fire safety precaution, regularly encountered upon inspection, that combustible materials must not be placed on the exhaust hood, which is above the rangehood. An exception is made for the posting of the

required proof of compliance placed by the authorized cleaning company in accordance with Fire Department rules.

FC609.5.3 Cleaning and other maintenance. The new section clarifies existing cleaning, inspection and other maintenance requirements set forth in FC609.4 for commercial cooking exhaust systems, including exhaust hoods, grease filters, grease extractors, exhaust ducts, exhaust fans, emission control devices, and other exhaust system components. The section incorporates a new Fire Code term, *high-volume cooking*, to address commercial cooking operations that generate heavy grease accumulations, and that, like wood-burning commercial cooking, may require more frequent cleaning of the commercial cooking appliances. High-volume cooking operations will be defined and addressed through rulemaking.

FC609.5.3.1 Frequency of exhaust system inspection. This section reorganizes and clarifies, in table format, requirements for the minimum frequency of periodic exhaust system inspection. The section addresses the periodic cleaning of ductless hoods and provides that they be inspected as required in accordance with the Fire Department Certificate of Approval and the manufacturer's instructions, but in any event not less than every three months. The section also addresses the periodic cleaning of emission control devices, and requires that they be inspected in accordance with the inspection frequency for the commercial cooking system for which the device has been installed.

FC609.5.3.2 Cleaning of grease filters and other grease removal devices. The section has been amended to reorganize and clarify cleaning requirements for grease filters and other grease removal devices associated with commercial cooking systems. The section addresses charcoal grease filters and provides that they be inspected as required in accordance with the Fire Department Certificate of Approval and the manufacturer's instructions, but in any event not less than once every three months.

FC609.5.3.3 Exhaust system cleaning. The section has been amended to reorganize and clarify cleaning requirements for commercial cooking exhaust systems. A new table has been added to clarify and reorganize the extent and frequency of cleaning, based in part upon the volume of cooking. The table conforms to IFC and industry (International Kitchen Equipment Cleaning Association) standard for exhaust ductwork cleaning when grease accumulation is measured by a depth gauge comb or other approved device. The section also requires charcoal filters in emission control devices to be replaced by a person holding a Fire Department Certificate of Fitness for emission control device cleaning, in accordance with the terms and conditions of the Fire Department Certificate of Approval, if specified therein, or the manufacturer's instructions, but in any event not less than once every three months. This is to ensure that such devices are cleaned by a company and individual qualified to handle such equipment.

FC609.5.3.6 Responsibility. The section has been added to clarify the responsibility of an owner of a commercial cooking exhaust system to ensure that such system is inspected, cleaned and serviced by a commercial cooking cleaning company holding a Fire Department commercial cooking exhaust system servicing company certificate. The section further provides that where the Fire Code authorizes cleaning of cooking equipment by the owner, the owner will be held to the same standard as a commercial cooking cleaning company.

FC609.5.3.7 Proof of compliance. This new section has been added to incorporate existing requirements from Fire Department rule 3 RCNY 115-02, requiring that commercial cooking cleaning companies document their cleaning of a commercial cooking exhaust system by affixing to each exhaust hood the proof of compliance approved by the Fire Department for such purposes.

FC609.5.4 Exposed ducts. This new section requires a periodic visual inspection of commercial cooking exhaust systems ducts (unless ducts are concealed within walls and ceilings) and requires that defective ducts, including insulation, be repaired or replaced.

FC609.6.3 Inspection, testing and other maintenance by certificate of fitness holder. This new section has been added to require that inspection, testing, and maintenance of a fire extinguishing system be conducted by a Fire Department Certificate of Fitness holder. Consistent with Building Code requirements, the Certificate of Fitness holder must be a master fire suppression piping contractor who is trained and knowledgeable in the installation, operation and maintenance of the specific fire extinguishing system, or (in accordance with FC904.5.2, as amended) a person holding a Certificate of Fitness under the supervision and direction of such license holder.

FC609.7 Signage. The section reorganizes and clarifies in table format existing requirements (formerly set forth in FC609.3.5, FC904.11.5, and FC904.11.6.3) for staff training and firefighting purposes. The section additionally requires signage to identify precipitator type and location to facilitate both Fire Department inspection and firefighting operations.

FC609.8 Staff training. The section incorporates existing requirements formerly set forth in FC609.3.6. The section additionally requires refresher training at least once every 6 months.

FC609.10 Recordkeeping. The section incorporates and expands upon existing recordkeeping requirements formerly set forth in FC609.7. The section incorporates a cross-reference to FC609 relating to existing requirements for records related to portable fire extinguishers. The section additionally provides that approved cleaning companies cleaning a commercial cooking exhaust system maintain records of conditions existing prior to and after cleaning, as may be required by the rules. The section adds a new requirement for records to be kept of the date and cause of each activation of the commercial cooking fire extinguishing system.

SECTION FC 610
COMMERCIAL KITCHEN COOKING OIL STORAGE SYSTEMS

FC610.1 General. This new section adopts IFC requirements for storage of fresh and waste cooking oil in above ground storage systems in commercial kitchens. Cooking oil has low flammability, but storage systems heat waste oil to liquefy it for ease of handling, which raises fire safety concerns. The Fire Code regulates such cooking oil storage in accordance with industry standards by requiring compliance with NFPA Standard 30, which is adopted as a Referenced Standard. Cooking oil will not be required to comply with the stricter standards for combustible liquids set forth in Fire Code Chapter 57; FC5701.1(10) exempts cooking oil from such requirements. The section does not require a Fire Department permit for storage of cooking oil.

FC610.2 Storage tanks. The section requires cooking oil tanks to be designed and constructed to withstand heating associated with the operation of cooking oil storage systems. The oil must be

stored in UL-listed metallic storage tanks installed in accordance with the tank manufacturer's instructions. Nonmetallic tanks may be used only if approved by the Fire Department.

FC610.3 Cooking oil storage system components. The section provides that all components must be designed for the working pressure and maximum operating temperature of the storage system. All electrical components must comply with the Electrical Code, and electrical components used to heat the cooking oil must be listed to UL 499.

FC610.4 Tank venting. The section establishes requirements for normal and emergency venting from storage tanks. This serves to safely discharge hot vapors in a fire and prevent explosions.

SECTION FC 611
AUTOMATED PARKING GARAGES

This new section establishes certain design and operational requirements for automated parking garages to facilitate firefighting operations. Automated parking garages are parking garages in which the car is mechanically moved to a parking space to which there is limited human access, typically in an underground or aboveground storage structure. Such automated equipment and inaccessible parking spaces make firefighting and other emergency response operations difficult unless appropriate firefighter access and fire protection systems are provided. Such design requirements are being addressed through Building Code provisions. The section addresses other design and operational issues arising from such parking garages.

FC611.3 Design and installation. The section requires that emergency shut-down devices and fire protection system and smoke purge system control panels be installed at a conspicuous, readily-accessible location at or near the main entrance to the automated parking garage and/or other approved locations suitable for firefighting operations.

FC611.4 Operational requirements. The section requires written notification to the Fire Department prior to occupancy to allow familiarization by administrative companies with the configuration and operations of the particular automated parking garage. The section also requires preparation of an automated parking garage information card in a manner to be set forth in the rules, and emergency communications (a means to notify the Fire Department in an emergency and for the Fire Department to obtain the assistance in an emergency from a person trained and knowledgeable in the operation of the parking garage). The section also requires that records of system maintenance be maintained on the premises.

CHAPTER 7
FIRE-RESISANCE-RATED CONSTRUCTION

The only amendment to this chapter is to clarify that terms are now defined in FC202.

CHAPTER 8
INTERIOR FURNISHINGS, DECORATIONS AND SCENERY

FC801.7 Supervision. The section has been amended to clarify that certification of materials as flame-resistant or inherently flame-resistant, in compliance with Fire Code requirements for certain occupancies and spaces, must be by a Certificate of Fitness holder, consistent with existing

Fire Department practice. Such holder must personally supervise the application of flame-retardant chemicals and prepare a certification of compliance (unless an acceptable manufacturer's certification is available for an article that is inherently flame-resistant).

SECTION FC 802
DEFINITIONS

FC802.1. This section has been amended to include a definition for *natural vegetation,* regulated by FC804.2, as amended.

SECTION FC 804
DECORATIVE VEGETATION

FC804.2 Natural vegetation. This section, formerly reserved, has been retitled and amended to require natural vegetation in buildings to be maintained in a healthy condition to prevent it from becoming dry and ignitable. This amendment addresses an omission in the Fire Code, which contains indoor maintenance requirements for natural trees and natural decorative greens, but not live plants and other natural vegetation. Consistent with the requirements for other indoor plants, the section, as amended, requires natural vegetation that has become dry and readily ignitable to be promptly removed from the premises and regular pruning to prevent natural vegetation from growing beyond the space designated for it.

FC804.4 Artificial vegetation. The section has been amended to clarify that requirements for flame resistant decorations (including artificial vegetation) are applicable to the specific occupancies set forth in FC805.

SECTION FC 805
DECORATIONS AND SCENERY

FC805.1 Decorations. The section has been amended for clarity.

FC805.1.1 Fabric partitions. This section has been amended to incorporate the defined term, *flame-resistant material*, in place of references to FC801.5.3 and NFPA Standard 701.

FC805.1.3 Reserved. As amended, the requirements of this section have been incorporated into FC807.1 and this section is held in reserve. Reference to NFPA Standard 701 has been incorporated into the definition of flame-resistant material.

FC805.2 Scenery. This section, as amended, conforms to an IFC change relating to the flame resistance of foam plastic materials, which provides for testing in accordance with either UL 1975 or NFPA Standard 289.

FC805.3. Outdoor decorative installations. As amended, this new section requires, consistent with existing Fire Department guidance, that outdoor decorative installations more than four feet in height, that are displayed in outdoor public assembly or public gathering spaces, or common areas in certain occupancies and under, through or around which the public or building occupants are allowed to enter or pass, shall be of flame-resistant material.

SECTION FC 806
INTERIOR FINISHES

FC806.2 Foam plastic signs. This section, as amended, allows the alternative means of demonstrating fire resistance set forth in FC805.2.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes

CHAPTER 9
FIRE PROTECTION SYSTEMS

SECTION FC 901
GENERAL

FC901.1.2 Emergency alarm systems. The section has been added to codify existing practice that emergency alarms be designed, installed, operated and maintained in the same manner as fire alarm systems except as otherwise authorized by the Construction Codes, this code and the rules.

FC901.4.1.1 Fire protection systems deemed required. The section has been added to clarify, consistent with the IFC, that any fire protection system for which a design option, exception or reduction to the provisions of this code or the Construction Codes has been granted (such as allowing a modification of construction standards in exchange for an installation of a fire extinguishing system) will be deemed a required system.

FC901.4.5 Certificate of approval. The section has been amended to delete the list of fire protection devices, equipment and systems that require a Fire Department Certificate of Approval and instead cross-reference FC112, which, as amended, contains a list of devices, equipment and systems that require a Certificate of Approval.

FC 901.4.6 Connection to water supply. The section has been added to incorporate an existing provision formerly set forth in FC912.5. As amended, this section requires sprinkler systems, and other fire extinguishing and/or fire protection systems, connected to a potable water supply to be protected against backflow in accordance with the Construction Codes and Department of Environmental Protection requirements.

FC901.5 Installation acceptance testing. The section has been amended to clarify that when an installation does not pass an acceptance test required to be witnessed by the Fire Department, the necessary corrections shall be made and the installation retested, or when authorized by the rules, a certification of such corrections by a licensed or certified professional may be submitted to the Fire Department in lieu of another witnessed test. Currently such certification of correction of defects is authorized for certain fire alarm system installations by existing rule 3 RCNY 104-01.

FC901.5.1 Occupancy. The section has been amended to allow occupancy in a building when one or more floors of the building is under construction or alteration, substantially conforming to existing Department of Buildings practice. In a new building under construction, a floor below the level of ongoing construction may be occupied upon installation, testing and approval of the

required fire protection systems on all floors up to and including the occupied floor. In an existing building undergoing alteration, a completed floor may be occupied upon installation, testing and approval of the required fire protection systems for such floor in accordance with Building Code and Department of Buildings requirements.

FC901.5.2 Correction of non-compliant conditions. The section has been added to require compliance within 60 days when the Department of Buildings authorizes occupancy of a building in which there are installation defects or other non-compliant conditions in the fire protection systems on the floors of the building in which occupancy has been authorized. As amended, upon issuance of the occupancy authorization the written inspection findings of such defects and other noncompliance constitute enforceable violations. The section requires that such violations be corrected within the time for correction set forth in the inspection finding, but in any event within 60 days of occupancy, unless additional time for compliance is granted by the Fire Department.

FC Table 901.6.1. **Fire Protection System Maintenance Standards.** The table has been amended to update the list of fire protection systems (and corresponding referenced standards) and put them in alphabetical order.

FC901.6.2.1 Standpipe and sprinkler systems. The section has been amended to clarify periodic maintenance and inspection requirements and conform them to the requirements of the applicable Referenced Standard, NFPA Standard 25. As amended, this section deletes the description of the required inspection and replaces it with references to the monthly visual inspection required by NFPA Standard 25, which must be conducted by a Certificate of Fitness holder, and to other periodic testing and other maintenance required by NFPA 25, which must be conducted by a Certificate of Fitness holder possessing the required qualifications.

FC901.6.3 Supervision. The section has been amended to clarify the qualifications required to maintain fire protection systems. As amended, the section requires that all inspection, testing, servicing and other maintenance of fire protection systems be personally conducted by a Certificate of Fitness holder, but when required by the Construction Codes or other applicable law, rule or regulation, such Certificate of Fitness holder must hold a master fire suppression piping contractor license, master electrician license or other required license, or (consistent with Construction Code requirements) be under the direction and control of such license holder.

The section also amends the list of fire protection systems subject to the supervision requirement to combine existing items 1 and 3 (sprinkler systems and foam fire extinguishing systems under the general category of fire extinguishing systems, a defined term that includes both), and, to clarify that the supervision requirement is not applicable to maintenance of sprinkler systems in Group R-3 occupancies.

FC901.6.3.3 Commercial cooking exhaust systems. The supervision requirements formerly set forth in this section relating to commercial cooking exhaust systems have been relocated to FC609 and this section has been reserved.

FC901.6.4 Verification of system functionality. The section has been added to require that any fire protection system which is or may have been damaged or rendered out of service, in whole or in part, as a result of exposure to fire or water or other cause, be inspected to verify that the system

is in good working order. This section further requires that if such system is not in good working order, the system must be repaired or restored to good working order forthwith.

FC901.7.5.2 Sprinkler systems and fire alarm systems. The section, which addresses when notification must be made to the Fire Department of an out-of-service fire protection system, has been amended with respect to out-of-service fire alarm systems (Item 3). As amended, the section requires such notification when the work or repairs will require a fire alarm system to be out of service for 30 hours or more (consecutive or non-consecutive) in any month, in addition to the existing timeframe of 8 hours or more in any 24-hour period. This is designed to address the opportunity to circumvent the notification requirement by briefly restoring the fire alarm system to service every 8 hours when the fire alarm system is effectively out of service more than 8 hours in a 24-hour period.

FC901.10 Telephone numbers for department notification. The section has been added to set forth the telephone numbers of each Fire Department borough communications offices, to which required non-emergency notifications may be made to the Fire Department. These telephone numbers were set forth in FC401.2.2 for other purposes, but have been deleted from that section, as amended. Reference to this section and its telephone numbers have been included in FC901.7.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes

SECTION FC 902
DEFINITIONS

902.1 Definitions. As amended, the section incorporates new Fire Code terms, *domestic cooking hood, domestic cooking system, fire pump, fire suppression piping contractor, plumber* and *water mist system*, all of which are defined in Fire Code Chapter 2 as amended.

SECTION FC 903
SPRINKLER SYSTEMS

FC Table 903.2.13, Additional Required Fire Extinguishing Systems. The table has been revised to reflect the amendments to the sprinkler requirements of FC903.2 and corresponding new section numbers.

FC903.3.1 Inspector's test gauge. The section has been amended to require an inspector's test gauge to be installed on sprinkler systems in all Group R-2 occupancies so that qualified persons can visually confirm the static water pressure in the system. Most owners have installed such test gauges, which greatly facilitate the inspection and testing of the sprinkler system, thereby reducing the time and expense required for such inspections and testing. This is an operational requirement and is retroactive. Conforming changes have been made in FC903.5.

FC903.5 Maintenance. The section has been amended to conform to the change in FC903.3.1 and to clarify the requirements for flow testing of residential sprinkler systems.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

SECTION FC 904
FIRE EXTINGUISHING SYSTEMS

This section has been comprehensively revised to consolidate the design, installation and maintenance requirements applicable to all fire extinguishing systems and to incorporate existing Fire Department guidance and practice.

FC904.1 General. The section has been revised to clarify that all fire extinguishing systems, except sprinkler systems, must be designed, installed, operated and maintained in accordance with the terms and conditions of the listing, where applicable, and the manufacturer's instructions, in addition to the applicable Referenced Standards, as set forth in new FC Table 904.1. The section clarifies that sprinkler systems are governed by the provisions of FC903.

FC Table 904.1 Fire Extinguishing System Referenced Standards. This new table has been added to list, for convenient reference, the different types of fire extinguishing systems and the Referenced Standards applicable to each.

FC904.1.1 Fire extinguisher system design. As amended, the section clarifies that fire extinguishing systems may be engineered or pre-engineered and that pre-engineered systems must be of a type for which a Fire Department Certificate of Approval has been issued in accordance with FC 112 and 901.4.5. This requirement was previously set forth in FC901.4.5. As amended, the section further clarifies that fire extinguishing systems may be designed as local applications or as total flooding systems, except as otherwise provided in this code or other applicable law, rule, regulation or standard.

FC904.1.2 Installation acceptance testing. The section has been amended to conform the wording of the acceptance testing requirements to the standard Fire Code formulation of such requirements, and to clarify that the owner's representative is required to furnish the equipment needed to conduct the test.

FC904.1.4 Prohibited fire extinguishing systems. As amended, the section clarifies the status of fire extinguishing systems the Fire Code no longer allows to be installed or no longer allows to be used after a date certain, as formerly set forth in FC 904.8 and 904.9.

FC904.1.4.1 Existing carbon dioxide systems. As amended, the section prohibits new installation of carbon dioxide extinguishing systems or continuing to maintain existing carbon dioxide fire extinguishing systems within normally occupied areas, including commercial kitchens. As amended, the section requires that existing total flooding carbon dioxide systems installed in normally occupied areas, that were required by the 2014 fire code to be removed by July 1, 2013, be removed and a replacement fire extinguishing system be installed in accordance with the Building Code, the Fire Code and other applicable laws, rules and regulations.

FC904.1.4.2 Existing halon systems. As amended, the section prohibits new installation of halon fire extinguishing systems in any building or occupancy and requires that lawfully existing halon fire extinguishing systems be maintained in accordance with FC904.5. The section further provides that if a lawfully existing system cannot be maintained under the laws, rules, regulations, standards

and design and installation approvals under which it was installed, such system must be removed and replaced with a type of fire extinguishing system that is allowed by the Fire Code.

FC904.1.4.3 Clean agent systems. As amended, the section requires that all new clean agent system installations be total flooding systems, and that lawfully existing clean agent fire extinguishing systems that are not total flooding systems be maintained in accordance with FC904.5 The section further provides that if a lawfully existing system cannot be maintained under the laws, rules, regulations, standards and design and installation approvals under which it was installed, such system must be removed and replaced with a type of fire extinguishing system that is allowed by the Fire Code.

FC904.2 Where required. As amended, the section provides that sprinkler systems must not be omitted from any room or area merely because it is of fire-resistance-rated construction or contains electrical equipment, except as otherwise provided in the Building Code.

FC904.3.2 Activation. This section has been amended to use more modern terminology. The section has also been amended to clarify that all fire extinguishing systems must be designed and installed to activate automatically, except as otherwise required by the Fire Code or other codes and rules, and that all automatically-activating fire extinguishing systems must additionally be provided with a manual means of activation.

FC904.3.3 System interlocking. This section has been amended to clarify that such devices shall be designed in compliance with the Construction Codes, to which a reference has been added, unless the Fire Department authorizes an alternative design and installation standard for automatic equipment interlocks.

FC904.3.4 Alarms and warning signs. As amended, the section adopts NFPA Standard 12 for all signage requirements for all carbon dioxide extinguishing systems where allowed.

FC904.3.5 Monitoring. As amended, the section requires that all indoor fire extinguishing systems, except commercial cooking, domestic cooking and spray finishing fire extinguishing systems, installed after the effective date of this section, be monitored by an approved central station. As amended, this section clarifies that where a building fire alarm system is installed, all such indoor fire extinguishing systems must be monitored by such fire alarm system with the exception of domestic cooking systems. These revisions are designed to establish a uniform standard for central station monitoring of fire extinguishing systems.

FC904.3.7 Additional safety measures. The section has been added to consolidate existing Fire Code requirements, previously set forth in FC 904.8 and 904.10, specifying additional safety measures for each type of fire extinguishing system.

FC904.3.8 Commercial cooking systems. The section has been amended to consolidate all design, installation and maintenance requirements for commercial cooking fire extinguishing systems.

FC904.3.8.1 Types of systems approved for commercial cooking operations. The section lists the types of fire protection systems that may be used to protect commercial cooking operations,

previously set forth in FC904.11. The section eliminates carbon dioxide fire extinguishing systems for commercial cooking applications, and adds water mist systems, consistent with the IFC.

FC904.3.8.1.1 Dry chemical, non-listed wet chemical and carbon dioxide systems. The section requires that dry chemical systems, wet chemical systems not listed to the UL 300 standard, and carbon dioxide systems may not be used for commercial cooking operations and existing systems must be removed and replaced with a type of fire extinguishing system allowed by the Fire Code. The Fire Code has since 2008 required that dry chemical systems be removed if they could not be maintained. Manufacturers have not been supporting dry chemical fire extinguishing systems, and wet chemical systems not listed to the UL standard, for many years.

FC904.3.8.2 Manual activation device. The section incorporates existing requirements previously set forth in FC904.11.1.

FC904.3.8.3 System interconnection. The section incorporates existing requirements previously set forth in FC904.11.2.

FC904.4 Installation inspection and testing. The section as amended, clarifies, consistent with existing practices, that all fire extinguishing systems be inspected and tested upon completion of the installation and prior to the Fire Department acceptance testing required by FC904.1.2. Such system testing serves to ensure that installation and operational issues are addressed prior to Fire Department inspection and acceptance testing, and avoid the delay and expense associated with the issuance of notices of defect and/or the need for re-inspections.

FC904.4.1 Inspection. The section clarifies the inspection to be conducted upon completion of the installation, including confirming the availability of operating instructions, to ensure that the system is correctly operated during subsequent acceptance testing.

FC904.4.2 Alarm testing. The section requires that the testing to be conducted upon completion of the installation confirm the audibility and visibility of notification appliances signaling agent discharge or system operation, and confirm connections, proper identification and retransmission of alarms to the central station monitoring the fire extinguishing system.

FC904.5 Maintenance of fire extinguishing systems. As amended, the section consolidates existing Fire Code requirements for periodic maintenance of fire extinguishing systems, previously set forth in FC904.11.6, and adds certain additional requirements.

FC Table 904.5.2 Fire Extinguishing System Inspection, Testing and Maintenance Schedule. This new table has been added to list, for convenient reference, the required frequency of periodic inspection, testing and maintenance for all fire extinguishing systems.

FC904.5.3 Five-year retest. The section has been added to require that all fire extinguishing systems be retested once every five years from the date of acceptance of the system, and to set forth when the first retest of fire extinguishing systems lawfully existing on the effective date of this provision must be conducted. The section requires that such test be conducted, and reported to the Fire Department, in the manner prescribed by rule, by a licensed master fire suppression piping contractor holding a Fire Department Certificate of Fitness, properly trained and having knowledge of the installation, operation and maintenance of the specific fire extinguishing system,

or a person holding a Fire Department Certificate of Fitness under the direction and control of such license holder. The section exempts commercial cooking and domestic cooking fire extinguishing systems from such requirement.

FC904.6 Additional maintenance requirements. The section has been added to consolidate existing Fire Code requirements, previously set forth in FC 904.13, 904.8, 904.10, 904.6, 904.7, 904.9, 904.12 and 904.5, arrange them in alphabetical order and specify additional maintenance requirements for each type of non-sprinkler fire extinguishing system.

FC904.6.9 Commercial cooking systems. The section has been added to consolidate existing Fire Code requirements, previously set forth in FC904.11.6.1, specifying maintenance requirements for commercial cooking fire extinguishing systems, and cross-referencing other Fire Code sections relating to maintenance of such systems.

FC904.6.10 Domestic cooking systems. The section has been added to require that all fire extinguishing systems installed on domestic cooking hoods in Group I-2 occupancies, or in any other occupancy, be installed and maintained in accordance with the Fire Code provisions applicable to the type of fire extinguishing system installed.

FC904.6.10.1 Installation. The section requires that domestic cooking fire extinguishing systems be installed by a licensed master fire suppression piping contractor, who must certify to the Fire Department that the installation complies with the Construction Codes and Fire Code.

FC904.6.10.2 Maintenance. The section requires such fire extinguishing systems be maintained in accordance with applicable NFPA standard and the Fire Code.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes

SECTION FC 905
STANDPIPE SYSTEMS

FC905.3 Standpipe elevation markings. The section has been added to require that the elevation above grade of each floor level shall be conspicuously marked (or a sign posted) on or adjacent to the standpipe hose outlet on each floor of a building or structure more than 240 feet in height. This new requirement will facilitate effective firefighting operations in buildings with marketing floor numbers or where, for other reason, firefighting personnel cannot reasonably estimate from the floor number the required water pressure for fire operations.

FC905.4 Standpipe elevation chart. The parallel section to FC905.3 has been added to require that a chart listing the floor number and corresponding elevation above grade of each floor level of the building be prepared for each building or structure more than 240 feet in height and kept at the fire command center or other approved location..

FC905.5 Fire department connections. The section has been added to cross-reference the signage requirements in FC912 for fire department connections serving a standpipe system.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes

SECTION FC 906
PORTABLE FIRE EXTINGUISHERS

FC Table 906.1 Additional Required Portable Fire Extinguishers. The table has been revised to conform to the new Fire Code section numbers and include new Fire Code portable fire extinguisher requirements**.**

FC906.2.1.2 Servicing. The section has been amended to clarify that the annual servicing and recharging of fire extinguishers shall be conducted in accordance with NFPA 10 by an approved portable fire extinguisher servicing company, as required by FC901.6.3.1 and a technician meeting the requirements of that section.

FC906.2.1.4 Proof of compliance. The section has been added to require a portable fire extinguisher servicing company holding a company certificate to document its servicing of portable fire extinguishers by affixing the proof of compliance approved for such purposes. This codifies existing requirements set forth in Fire Department rule 3 RCNY 115-02.

SECTION FC 907
FIRE ALARM AND DETECTION SYSTEMS

FC907.1 General. The section has been amended to refer to the design and installation of fire alarm systems and their components. FC907.1.1, which addresses design and installation documents, has been deleted and its requirements consolidated into FC907.3, as amended.

FC907.3 Design and installation. The section has been amended to incorporate design and installation requirements for all types of fire alarm systems and to reference compliance with the New York City Electrical Code.

FC907.3.1 Design and installation documents. The section, as amended, incorporates the existing requirements previously set forth in FC907.1.1.

FC907.3.2 Fire alarm system control panel. The section has been added to incorporate the existing requirement, previously set forth in FC907.3.2 and FC901.4.5, and added to FC112, as amended, that fire alarm control panels shall be of type for which a Fire Department Certificate of Approval has been issued in accordance with FC112 and the rules. As amended, the section requires fire alarm control panels be installed at an approved location and, when applicable, in accordance with the requirements for flood zones set forth FC904.3.6. As amended, the section also requires that fire alarm system control panel design and operation for mass notification purposes requires Fire Department approval.

FC907.3.3 Fire extinguishing systems. The section has been added to incorporate the existing requirement, previously set forth in FC907.14, that fire extinguishing systems be connected to the building fire alarm system whenever a fire alarm system is required or is otherwise installed in the building.

FC907.3.4 Manual fire alarm box protective covers. The section has been added to incorporate the existing provision, previously set forth in FC907.4, authorizing the Fire Department to require that manual fire alarm boxes be provided with protective covers to prevent malicious false alarms, and with protection from physical damage.

FC907.4 Fire command center. The section has been amended to codify from existing Fire Department guidance and practice, design and installation requirements for fire command centers, including the location of primary and secondary fire command centers, availability of a printer or other approved device to allow firefighting personnel to review the incident history associated with an alarm activation, and the documentation required be maintained at the fire command center.

FC907.14 Fire extinguishing systems. The requirements set forth in this section have been incorporated in FC907.3.3, and the section has been reserved.

FC907.15.1 Discontinuance or other change of service. This section, as amended, codifies an existing Fire Department practice that any discontinuance of fire alarm system monitoring or other change of service requires notification to the Fire Department. This serves to ensure that building fire protection systems, and other devices, equipment and systems that the Fire Code requires to be central station monitored, maintain such monitoring with a monitoring facility approved by the Fire Department.

FC907.20.5 Maintenance. This section has been amended to delete reference to life safety system and correctly include all detection systems.

FC907.20.5.1 Five-year retest. This section has been added to require that all fire alarm systems be retested once every five years from the date of acceptance of the system, and to set forth when the first retest of fire alarm systems lawfully existing on the effective date of this provision be conducted. The section requires that such test be conducted, and reported to the Fire Department, in the manner prescribed by rule, by a person holding a Fire Department Certificate of Fitness for professional certification of fire alarm and emergency alarm installations and testing, as set forth in FC104.2.1(1) and the rules, or a fire alarm system installer with NICET-Level II certification licensed by or registered with the State of New York and holding a Fire Department Certificate of Fitness in accordance with the rules.

SECTION FC 908
EMERGENCY ALARM SYSTEMS

FC908.1 General. The section has been amended to clarify that emergency alarm systems required by the Construction Codes, the Fire Code or the rules for the detection and notification of a release of a hazardous material or other hazardous materials incident, or other physical or health hazard, including systems designed to detect flammable, toxic, asphyxiant and other gases, must be designed, installed, operated and maintained in compliance with the Construction Codes, the Electrical Code, the code requirements referenced in FC Table 908.1, this section and the manufacturer's instructions. The section serves to distinguish emergency alarm systems from fire alarm systems, which, in practice, both the Fire Department and the Department of Buildings treat in essentially the same manner as fire alarm systems.

FC Table 908.1 Required Emergency Alarms. This new table has been added listing, for convenient reference, the different types of emergency alarm systems that the Building Code or Fire Code require to be installed, the occupancy or use in or for which it is required, and the Building Code or Fire Code section setting forth such requirement.

FC908.2 Plan approval. This section, as amended, provides that all design and installation documents for emergency alarm systems be submitted for Fire Department review and approval when required by FC105.4 and the rules.

FC908.3 Signage. This section, as amended, requires that signs be posted in a conspicuous location near the emergency alarm system control panel and each alarm notification device to inform building occupants in the affected area of the meaning of the alarm activation and the appropriate response.

FC908.4 Central station monitoring. This section, as amended, requires all emergency alarm systems required to be central station-monitored to transmit such signal through the central station-monitored building fire alarm system, or through a separate control panel. The section, as amended, requires that such central station connections be maintained in compliance with the requirements of NFPA 72, as modified by FC Appendix B, and the rules.

FC908.5 Periodic inspection and testing. This section, as amended, requires sensors and other mechanical and electrical components of emergency alarm systems be tested by a trained and knowledgeable person on not less than an annual basis to ensure that they are in good working order, and a record kept of such testing.

FC908.5.1 Five-year retest. This section, as amended, adds a new requirement, identical to the requirement for fire alarm systems set forth in FC907.20.5.1, that all emergency alarm systems be retested once every five years from the date of acceptance of the system, and to set forth when the first retest of emergency alarm systems lawfully existing on the effective date of this provision be conducted. The section requires that such test be conducted, and reported to the Fire Department, in the manner prescribed by rule, by a person holding a Fire Department Certificate of Fitness for professional certification of fire alarm and emergency alarm installations and testing, as set forth in FC104.2.1(1) and the rules, or a fire alarm system installer with NICET-Level II certification licensed by or registered with the State of New York and holding a Fire Department Certificate of Fitness in accordance with the rules.

SECTION FC 911
EXPLOSION CONTROL

FC911.1 General. This section has been amended to incorporate into FC Table 911.1 the explosion control requirements for stationary energy storage systems set forth in FC608.

SECTION FC 912
FIRE DEPARTMENT CONNECTIONS

FC912.4.1 Identification of fire department connections. This section has been amended to clarify existing requirements for required signage and marking for fire department connections.

Fire department connections are the devices typically installed on the exterior walls of buildings to which firefighters attach fire hoses to supply water to the building standpipe for firefighting operations. The section has also been amended to codify existing guidance and practice requiring that standpipe, sprinkler or combination systems in a building other than the building upon which the fire department connection is mounted shall be provided with a sign identifying the address of the other building served by the fire department connection; and that a standpipe, sprinkler or combination system serving more than one zone in a single building be provided with a sign identifying each zone served by the fire department connection, and that the sign specify the maximum height (in feet) above grade of each zone and any other necessary identifying information.

FC912.4.2 Design of signs and markings. This section, as amended, incorporates existing requirements previously set forth in FC912.4(1).

FC912.5. Backflow protection. The requirements of this section relating to backflow protection have been relocated to FC901.4.6 and the section has been reserved.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 10
MEANS OF EGRESS

SECTION FC 1027
MAINTENANCE OF THE MEANS OF EGRESS

FC1027.3 Unobstructed and unimpeded egress required. The section has been amended to clarify that storage of both combustible or noncombustible materials is prohibited in exits and exit passageways.

FC1027.3.8 Security grilles. The section has been added to clarify that security grilles for stores and other businesses must be secured in the full-open position during the period of occupancy, except when the Building Code provides otherwise.

FC1027.6 Group I-2 building hallway corridors. The section has been added to allow storage in hospital (Group I-2) hallway corridors of patient care equipment. A minimum corridor width of 96 inches is required and the entire corridor must be protected throughout by a sprinkler system. This provision was added to accommodate hospitals' need to have patient care equipment readily available near patient rooms, while minimizing obstruction of hallways. The section, as amended, is consistent with the requirements for such equipment set forth in NFPA Standard 101.

FC1027.9 Emergency Lighting. The section has been added to require monthly testing of egress illuminating equipment and annual testing of power source by qualified professionals, consistent with existing Fire Code requirements for testing of emergency power systems (as set forth in FC604.5).

CHAPTER 11
RESERVED

This chapter, formerly entitled "Aviation Facilities and Operations," has been amended to be reserved for future use to conform to the IFC format. Provisions for aviation facilities and operations are set forth in Fire Code Chapter 20, as amended.

CHAPTER 12
RESERVED

This chapter, formerly entitled "Dry Cleaning," has been amended to be reserved for future use to conform to the IFC format. Provisions for dry cleaning are set forth in Fire Code Chapter 21, as amended.

CHAPTER 13
RESERVED

This chapter, formerly entitled "Combustible Dust-Producing Operations," has been amended to be reserved for future use to conform to the IFC format. Provisions for combustible dust-producing operations are set forth in Fire Code Chapter 22, as amended.

CHAPTER 14
RESERVED

This chapter, formerly entitled "Fire Safety During Construction, Alteration, and Demolition," has been amended to be reserved for future use to conform to the IFC format. Provisions for fire safety during construction, alteration, and demolition are set forth in Fire Code Chapter 33, as amended.

CHAPTER 15
RESERVED

This chapter, formerly entitled "Flammable Finishes," has been amended to be reserved for future use to conform to the IFC format. Provisions for flammable finishes are set forth in Fire Code Chapter 24, as amended.

CHAPTER 16
RESERVED

This chapter, formerly entitled "Fruit and Crop Ripening," has been amended to be reserved for future use to conform to the IFC format. Provisions for fruit and crop ripening are set forth in Fire Code Chapter 25, as amended.

CHAPTER 17
RESERVED

This chapter, formerly entitled "Fumigation and Insecticidal Fogging," has been amended to be reserved for future use to conform to the IFC format. Provisions for fumigation and insecticidal fogging are set forth in Fire Code Chapter 26, as amended.

CHAPTER 18
RESERVED

This chapter, formerly entitled "Semiconductor Fabrication Facilities," has been amended to be reserved for future use to conform to the IFC format. Provisions for semiconductor fabrication facilities are set forth in Fire Code Chapter 27, as amended.

CHAPTER 19
RESERVED

This chapter, formerly entitled "Lumber Yards and Wood Waste Materials," has been amended to be reserved for future use to conform to the IFC format. Provisions for lumber yards and wood waste materials are set forth in Fire Code Chapter 28, as amended.

CHAPTER 20
AVIATION FACILITIES AND OPERATIONS

This chapter, formerly entitled "Manufacture of Organic Coatings," has been amended and retitled "Aviation Facilities and Operations." Provisions for manufacture of organic coatings are set forth in Fire Code Chapter 29, as amended.

As amended, the chapter sets forth existing provisions for aviation facilities and operations formerly in Fire Code Chapter 11. No changes to existing provisions have been made, other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 21
DRY CLEANING

This chapter, formerly entitled "Industrial Furnaces," has been amended and retitled "Dry Cleaning." Provisions for industrial furnaces have been relocated to Fire Code Chapter 30, as amended.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 2108
FIRE PROTECTION

FC2108.2 Fire extinguishing systems in newly-established dry cleaning facilities. As amended, the section continues to require full sprinkler protection of newly-established dry cleaning facilities.

FC2108.3 Fire extinguishing systems in lawfully existing dry cleaning facilities. As amended, the section adopts modified sprinkler requirements (partial sprinkler protection), currently allowed

by variance, for lawful existing Type III dry cleaning establishments undergoing alteration or replacement of equipment, including dry cleaners replacing perchloroethylene (PERC) equipment.

FC2108.3.1 Fully-sprinklered facilities. As amended, fully sprinklered facilities must maintain existing fire protection.

FC2108.3.2 Partially-sprinklered facilities. As amended, the section allows facilities with partial sprinkler protection (generally one or two sprinkler heads above dry cleaning equipment) to maintain existing sprinkler protection when replacing existing dry cleaning equipment with "inherently-safe" dry cleaning equipment (designed to prevent combustion and/or equipped with internal fire extinguishing capability), subject to solvent storage limitation (330 gallons for Type III-A or 660 gallons for Type III-B).

FC2108.3.3 Unprotected facilities. As amended, the section allows establishments without sprinkler protection, upon alteration, to install partial sprinkler protection (above dry cleaning equipment) when installing "inherently-safe" dry cleaning equipment, subject to solvent storage limitation.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 22
COMBUSTIBLE DUST PRODUCING OPERATIONS

This chapter, formerly entitled "Motor Fuel Dispensing Facilities and Repair Garages," has been amended and retitled "Combustible Dust Producing Operations. The provisions for motor fuel dispensing facilities and repair garages have been relocated to Fire Code Chapter 23, as amended.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC2201.3 General. This section has been amended to clarify that "combustible dust operations" includes manufacturing, processing, and handling.

FC2201.3.1 Powder coating operations. This new section has been added to incorporate a cross-reference to existing requirements set forth in Fire Code Chapter 24, as amended, relating to flammable finishes.

FC2201.3.2 Woodworking facilities. This new section has been added to incorporate a cross-reference to existing requirements set forth in Fire Code Chapter 28, as amended, relating to lumber yards and wood waste materials.

FC2201.3.3 Special effect. This new section has been added to incorporate a cross-reference to existing requirements set forth in Fire Code Chapter 56, as amended, relating to special effects utilizing combustible dust.

SECTION FC 2202
DEFINITIONS

FC2202.1 Definitions. This section has been amended to include a new term, *deflagrable wood dust*, which is defined in Fire Code Chapter 2, as amended.

SECTION FC 2204
ADDITIONAL REQUIREMENTS

This section, formerly entitled "Explosion Protection," has been amended and retitled "Additional Requirements."

FC2204.1 Explosion protection standards. As amended, the section clarifies required measures for explosion control. This section and FC Table 2204.1, as amended, adopt NFPA Standards 652 and 664 as Referenced Standards to regulate combustible dust production in grain handling, milling and storage, powder coating, printing, woodworking operations and other facilities that generate such dust.

FC2204.2 Dust hazard analysis. As amended, this section contains a new requirement to conduct a dust hazard analysis in accordance with NFPA 652 for combustible dust-producing operations that generate visible atmospheric dust and/or dust accumulations, to determine whether the combustible dust poses an explosion hazard. As amended, the section also requires installation of combustible dust collection equipment and/or other mitigation measures when such hazard is present.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 23
MOTOR FUEL-DISPENSING FACILITIES AND REPAIR GARAGES

This chapter, formerly entitled "High-Piled Combustible Storage," has been amended and retitled "Motor Fuel-Dispensing Facilities and Repair Garages." The provisions for high-piled combustible storage have been relocated to Fire Code Chapter 32, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC2301.3 Design and installation documents. As amended, the section contains a new requirement to submit design and installation documents to the Fire Department for repair garages for vehicles fueled by lighter-than-air motor fuels. As amended, the section clarifies that such documents must include the location of all storage tanks, dispensers, compressors, piping, fire protection systems and emergency shutdown devices.

FC2301.3.1 Compliance with other codes. As amended, the section incorporates 6 NYCRR Part 613 related to petroleum bulk storage, and eliminates the requirement to comply with 6 NYCRR Parts 612 and 614. Parts 612 and 614 have been repealed and incorporated into Part 613.

FC2301.9 Certificate of license. As amended, this section clarifies that installation, alteration, testing and repair of liquid motor fuel storage and dispensing systems at a bulk plant or terminal are subject to the certificate of license requirements set forth in the section.

SECTION FC 2302
DEFINITIONS

As amended, the section incorporates a new term*, biodiesel*. Other definitions have been deleted and incorporated in Fire Code Chapter 2, as amended.

FC2306.2.3 Aboveground tanks located outdoors, at grade. As amended, the section revises the requirements for aboveground motor fuel storage tanks. It allows for installation of 10,000 gallon aboveground diesel motor fuel storage tanks at a fleet motor fuel-dispensing facility as of right (currently allowed by special approval). The current capacity allowed as of right is 4,000 gallons. As amended, the section likewise increases the aggregate allowable quantity of liquid motor fuel. As amended, the section would also allow an individual tank with a capacity of 12,000 gallons if approved by the Fire Department.

FC2306.7.9 Vapor-recovery and vapor-processing systems. This section has been amended to eliminate Stage II vapor-recovery system requirements, consistent with NYS Department of Environmental Conservation regulations.

FC2306.7.9.1.3.1 Removal of piping. As amended, this new section has been added to require motor fuel dispensing facilities to notify the Fire Department upon decommissioning of vapor system piping.

SECTION FC 2307
DESIGN AND INSTALLATION REQUIREMENTS FOR BIODIESEL MOTOR FUEL

The section, formerly reserved has been amended and retitled "Design and Installation Requirements for Biodiesel Motor Fuel."

As amended, the section allows installation of biodiesel motor fuel tanks as of right, up to a maximum 20% biodiesel content limit (B-20), which is currently allowed by variance. As amended, the section requires Fire Department approval of any blend exceeding 20% to ensure the compatibility of biodiesel motor fuel with existing motor fuel tanks. Incompatibility can result in leaks, a fire hazard.

SECTION FC 2309
HYDROGEN MOTOR FUEL-DISPENSING AND GENERATING FACILITIES

FC2309.8 Defueling procedure. As amended, this new section has been added to incorporate cross-references to new requirements for discharge of gaseous hydrogen from fueling systems. As amended, the section requires a filing with the Fire Department for approval of the manner of

discharge. The submission must describe fire safety measures to be taken in the event of hydrogen release during gaseous hydrogen discharge.

SECTION FC 2311
REPAIR GARAGES

FC2311.1.2 Supervision of repair garages for vehicles fueled by lighter-than-air motor fuels. As amended, the section requires defueling and refueling of a motor vehicle fueled by lighter-than-air motor fuel to be conducted by under the personal supervision of a Certificate of Fitness holder. (There is a similar existing requirement for defueling of liquid motor fuel from a fuel tank).

FC2311.2.3.1 Draining of liquid motor fuel tanks. As amended, this section incorporates existing requirements formerly set forth in FC2211.5.1.

FC2311.5 Reserved. As amended, this new section is held in reserve. Provisions formerly set forth in FC2211.5 have been relocated to FC2311.8, as amended.

FC2311.6 Reserved. As amended, this new section is held in reserve. Provisions formerly set forth in FC2211.6 have been relocated to FC2311.7, as amended.

FC2311.7 Portable fire extinguishers. As amended, this section incorporates existing requirements formerly set forth in FC2211.6.

FC 2311.8 Repair garages for vehicles fueled by lighter-than-air motor fuels. As amended, this new section incorporates existing requirements formerly set forth in FC2211.7. As amended, the section modifies an existing exception and establishes three new exceptions to the design, installation, operation and maintenance requirements of this section, consistent with the International Fire Code requirements.

FC2311.8.1 Construction requirements. As amended, the section cross-references other construction requirements, to be set forth in the New York City Construction Codes, for repair garages for vehicles fueled by lighter-than-air motor fuels. The section, as amended, also requires appropriate fire safety measures.

FC2311.8.2 Fire protection. As amended, the section requires sprinkler protection in accordance with the Building Code.

FC2311.8.3 Exhaust ventilation system. As amended, the section incorporates existing ventilation provisions formerly set forth in FC2211.7.1, cross-references Construction Code requirements, and adopts NFPA 2 as a Referenced Standard for all hydrogen-fuel systems.

FC2311.8.4 Gas detection system. As amended, the section incorporates requirements formerly set forth in FC2211.7.1 and establishes new requirements for gas detection to conform to the IFC.

FC2311.8.5 Electrical requirements. As amended, the section incorporates Electrical Code requirements for Class I, Division 2 classified locations in motor vehicle repair rooms and motor vehicle repair booths. Two exceptions are incorporated for locations where specified ventilation parameters are otherwise provided.

FC2311.8.6 Preparation of vehicles for repair. As amended, this section sets forth existing requirements formerly set forth in FC2211.5 and adopts additional gas detection requirements for repair garages handling lighter-than-air-fueled vehicles.

FC2311.8.7 Other requirements. As amended, this new section cross-references other requirements in this chapter applicable to repair garages generally.

FC2311.8.8 Defueling equipment required at vehicle maintenance and repair facilities. As amended, the new section regulates the defueling of hydrogen fuel storage tanks. As amended, the section cross-references the defueling requirements of FC 2309.8 and NFPA 2, the latter of which has been adopted as a Referenced Standard for all hydrogen-fuel systems.

As amended, the requirements formerly set forth in FC 2211.8 through 2211.8.3 have been relocated into FC2311 or addressed in NFPA Standard 2, which has been adopted as a Referenced Standard.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 24
FLAMMABLE FINISHES

This chapter, formerly entitled "Tents and Other Membrane Structures," has been amended and retitled "Flammable Finishes." The provisions for tents and other membrane structures have been relocated to Fire Code Chapter 31, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC2404.3.3 Fire protection. This section specifies that spray rooms and spray booths must be protected by a fire extinguishing system. As amended, this section clarifies the system may be a sprinkler system or a non-sprinkler fire extinguishing system.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 25
FRUIT AND CROP RIPENING

This chapter, formerly entitled "Tire Rebuilding and Tire Storage," has been amended and retitled "Fruit and Crop Ripening." The provisions for tire rebuilding and tire storage have been relocated to Fire Code Chapter 34, as amended.

As amended, this chapter incorporates existing provisions for fruit and crop ripening formerly set forth in Fire Code Chapter 16. No changes have been made to existing provisions other than to

renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 26
FUMIGATION AND INSECTICIDAL FOGGING

This chapter, formerly entitled "Welding and Other Hot Work," has been amended and retitled "Fumigation and Insecticidal Fogging." The provisions for welding and other hot work have been relocated to Fire Code Chapter 35, as amended.

As amended, this chapter incorporates existing provisions for fumigation and insecticidal fogging formerly set forth in Fire Code Chapter 17. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 27
SEMICONDUCTOR FABRICATION FACILITIES

This chapter, formerly entitled "Hazardous Materials – General Provisions," has been amended and retitled "Semiconductor Fabrication Facilities." The general provisions for hazardous materials have been relocated to Fire Code Chapter 50, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC2703.7.1 Fabrication areas. This section has been amended to cross-reference Building Code requirements for electrical wiring and equipment in fabrication areas.

FC2703.10.1.2 Combustible tools. This section has been amended to incorporate a cross-reference to the applicable UL standard.

FC 2703.16 Sub-atmospheric pressure gas systems. This new section has been added to adopt NFPA Standard 318 as the Referenced Standard for sub-atmospheric pressure gas systems (SAGS).

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 28
LUMBER YARDS AND WOOD WASTE MATERIALS

This chapter, formerly entitled "Aerosols," has been amended and retitled "Lumber Yards and Wood Waste Materials." The provisions for aerosols have been relocated to Fire Code Chapter 51, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 2803
GENERAL REQUIREMENTS

FC2803.1 Open yards. As amended, the section clarifies where open yards are required to be maintained.

FC2803.2 Dust control. Formerly reserved, this section has been amended to reference Fire Code Chapter 22 explosion protection and combustible dust mitigation measures for indoor installations that generate combustible dust.

FC2803.3 Housekeeping. Formerly reserved, this section has been amended to require lumber yards, woodworking facilities and other dust-generating locations to be cleaned at the end of each workday and remove sawdust and other waste materials from the premises.

FC2803.5 Control of ignition sources. As amended, the section clarifies and revises requirements for control of ignition sources, consistent with the International Fire Code.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 29
MANUFACTURE OF ORGANIC COATINGS

This chapter, formerly entitled "Combustible Fibers," has been amended and retitled "Manufacture of Organic Coatings." The provisions for combustible fibers have been relocated to Fire Code Chapter 37, as amended.

As amended, this chapter incorporates existing provisions for manufacture of organic coatings formerly set forth in Fire Code Chapter 20. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 30
INDUSTRIAL FURNACES

This chapter, formerly entitled "Compressed Gases," has been amended and retitled "Industrial Furnaces." The provisions for compressed gases have been relocated to Fire Code Chapter 53, as amended.

As amended, this chapter incorporates existing provisions for industrial furnaces formerly set forth in Fire Code Chapter 21. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 31
TENTS AND OTHER MEMBRANE STRUCTURES

This chapter, formerly entitled "Corrosive Materials," has been amended and retitled "Tents and Other Membrane Structures." The provisions for tents and other membrane structures are set forth in Fire Code Chapter 31, as amended.

As amended, this chapter incorporates existing provisions for tents and other membrane structures formerly set forth in Fire Code Chapter 24. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 32
HIGH-PILED COMBUSTIBLE STORAGE

This chapter, formerly entitled "Cryogenic Fluids," has been amended and retitled "High-Piled Combustible Storage." The provisions for cryogenic fluids have been relocated to Fire Code Chapter 55, as amended.

Except as otherwise describe below, existing sections for high-piled combustible storage have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 3202
DEFINITIONS

FC3202.1 Definitions. As amended, the term *encapsulation* has been added to the list of terms enumerated in this section and defined in FC202. As amended, existing terms have been re-ordered for ease of reference: longitudinal flue space and transverse flue space are now *flue space, longitudinal* and *flue space, transverse,* respectively.

FC3208.2.1 Plastic pallets and shelves. As amended, the section adopts Factory Mutual (FM) Approval Standard 4996 as the Referenced Standard for combustible plastic pallets, to regulate them in a manner similar to wood pallets.

FC3208.3 Flue spaces. As amended, the section requires installation of approved devices to protect flue spaces in high-piled combustible storage installations, when the Fire Department determines such spaces are not being properly maintained.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 33
FIRE SAFETY DURING CONSTRUCTION, ALTERATION AND DEMOLITION

This chapter, formerly entitled "Explosives, Fireworks and Special Effects," has been amended and retitled "Fire Safety During Construction, Alteration and Demolition." The provisions for explosives, fireworks and special effects have been relocated to Fire Code Chapter 56, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 3301
GENERAL

FC3301.4 Prohibitions. As amended, this section clarifies prohibited activity at a construction site, namely use of portable fueled space heating equipment and devices for any purpose other than construction related curing and drying.

SECTION FC 3306
FLAMMABLE GASES AND OXYGEN

FC3306.1 Flammable gases. As amended, this new section adopts NFPA 56 as a Referenced Standard to regulate maintenance of flammable gas piping systems. As amended, the section prohibits use of flammable gas for cleaning and purging of piping open to the atmosphere, to prevent explosions.

SECTION FC 3318
POWDER-ACTUATED TOOL LOADS

FC3318.1 Storage, handling and use. As amended, the requirements for small arms ammunition relating to powder-actuated tool loads (used in nail guns) at construction sites have been deleted. The requirements have been relocated to Fire Code Chapter 56, "Explosives, Fireworks, and Special Effects" and replaced with a cross-reference to FC5606.8.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 34
TIRE REBUILDING AND TIRE STORAGE

This chapter, formerly entitled "Flammable and Combustible Liquids," has been amended and retitled "Tire Rebuilding and Tire Storage." The provisions for flammable and combustible liquids have been relocated to Fire Code Chapter 57, as amended.

As amended, this chapter incorporates existing provisions formerly set forth in Fire Code Chapter 34. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 35
WELDING AND OTHER HOT WORK

This chapter, formerly entitled "Flammable Gases," has been amended and retitled "Welding and Other Hot Work." The provisions for flammable gases have been relocated to Fire Code Chapter 58, as amended.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 3502
DEFINITIONS

FC3502.1 Definitions. As amended, the terms *combustible gas detector* and *hot tapping* have been added to the list of terms enumerated in this section and defined in FC202.

FC3503.4.1 Torch operations. As amended, the section requires that any torch operation using a flammable gas, with or without oxygen and any torch operation for torch-applied roofing systems, generally be personally conducted by a Certificate of Fitness holder.

FC3504.1.7 Precautions in hot work. This section has been amended to conform to the requirements of a new section regulating hot work, FC3510.

SECTION FC 3510
HOT WORK ON FLAMMABLE AND COMBUSTIBLE LIQUID STORAGE TANKS

As amended, this new section regulates hot tapping, which involves performing hot work repairs on storage tanks that contain or contained flammable or combustible liquids. Among other things, the section requires Fire Department approval for such hot work.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 36
MARINAS

This chapter, formerly entitled "Flammable Solids," has been amended and retitled "Marinas." The provisions for flammable solids have been relocated to Fire Code Chapter 59, as amended.

As amended, this chapter incorporates existing provisions in the same sequence as formerly set forth in FC Section 319. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 37
COMBUSTIBLE FIBERS

This chapter, formerly entitled "Highly Toxic and Toxic Materials," has been amended and retitled "Combustible Fibers." The provisions for highly toxic and toxic materials have been relocated to Fire Code Chapter 60, as amended.

As amended, this chapter incorporates existing provisions formerly set forth in Fire Code Chapter 29. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 38
RESERVED

This chapter, formerly entitled "Liquefied Petroleum Gases," has been amended and reserved for future use to conform to the IFC format. The provisions for liquefied petroleum gases have been relocated to Fire Code Chapter 61, as amended.

CHAPTER 39
RESERVED

The chapter, formerly entitled "Organic Peroxides," has been amended and reserved for future use to conform to the IFC format. The provisions for organic peroxides have been relocated to Fire Code Chapter 62, as amended.

CHAPTER 40
DISTILLERIES

This chapter, formerly entitled "Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids," has been amended and retitled "Distilleries." The provisions for oxidizers, oxidizing gases and oxidizing cryogenic fluids have been relocated to new Fire Code Chapter 63.

As amended, Chapter 40 regulates distilleries and any building or occupancy used for manufacturing of distilled spirits, to address fire safety and explosion hazards.

Distilleries manufacture, store, handle, use and serve distilled spirits, a flammable liquid, and generate flammable vapors in the process, unlike breweries and wineries, which produce noncombustible or combustible liquids that are not flammable and do not generate flammable vapors.

The new chapter defines and regulates distillery operations, including restricting distilleries to appropriate types of occupancies that are designed with fire-rated separations between production, storage and serving areas; sprinkler systems; electrical systems designed for use in the hazardous environment of the production area; continuous or exhaust ventilation systems; and fire alarm and gas detection systems. Modified standards will be applied to existing distilleries through rules or the modification (variance) process.

The chapter also contains separate, less stringent regulations for other alcohol production, including production of non-flammable alcohol products generated in distilleries that are precursors to distilled spirits. It requires a Certificate of Approval (equipment approval) for the still, *i.e.,* the device used in the distilling process that heats the flammable alcohol.

The chapter requires a permit to establish and operate distilleries and requires supervision of distilleries by a Certificate of Fitness holder.

SECTION FC 4001
GENERAL

FC4001.1 Scope. The new section sets forth the scope of the chapter to include the design, installation, operation and maintenance of distilleries, including the manufacturing, storage, handling and use of distilled spirits in such facilities. Any occupancy with ancillary distillery operations is deemed a distillery regulated by this section.

FC4001.2 Permits. The new section requires distilleries to obtain a Fire Department permit.

FC4001.3 General. The new section requires the design, installation, operation and maintenance of distilleries, including the manufacturing, storage, handling and use of distilled spirits, to be in accordance with the chapter.

FC4001.4 Acceptance testing. The new section requires that the still and all alcohol processing piping be tested by or in the presence of the Certificate of Fitness holder prior to commencement of distillery operations to ensure that the equipment is in good working order. The section also requires that electrical wiring be installed in accordance with the Construction Codes.

4001.5 Prohibitions. The new section sets forth the following prohibitions, including a storage limitation of 20,000 gallons of alcohol. (An applicant seeking to store additional quantities of alcohol can request a variance and have their application considered on an individual basis.) The section also restricts barrel storage to 12 feet in height above the floor. (Barrels, which typically weigh 500 pounds when filled can became dangerous projectiles.) The section prohibits distilling, alcohol processing and bottling above the second floor of any building, or in any basement, cellar or other below grade location, except as authorized by the Fire Department. (The Fire Code generally prohibits storage of flammables in below grade areas.) Distilling on upper floors is similarly being restricted to ensure accessibility for firefighting purposes. Finally, the section restricts establishment and operation of distilleries in any building housing a Group E, R-2 or I occupancy, or in which Group A occupancy is the dominant occupancy, except as authorized by the Fire Department. This restriction is because of the incompatibility of this hazardous manufacturing use in buildings with sleeping quarters and/or persons incapable of self-preservation.

4001.6 Supervision. The new section requires that distilleries and distillery operations, including the operation, testing and repair of the still and other distillery equipment, be personally conducted by, or under the personal supervision of, a Certificate of Fitness holder. All other distillery operations, including the storage of raw alcohol and distilled spirits, is required to be conducted under the general supervision of a Certificate of Fitness holder.

FC4001.7 Other alcohol products. The new section requires that manufacturing, storage, handling and use in a distillery of alcohol products that are not raw alcohol or distilled spirits comply with the requirements of FC4007, which governs the production of other alcohol products.

FC4001.8 Very low flammability. The new section authorizes the Fire Department to exempt a distillery from the design and installation requirements of Fire Code Chapter 40 if it exclusively manufactures, stores, handles and uses beverage alcohol that is a Class I liquid with an alcohol content by volume of 20 percent or less, including raw alcohol, process alcohol and finished products.

FC4001.9 Combustible dust. The new section requires that any distillery that generates combustible dust comply with the requirements for combustible dust-producing operations set forth in Fire Code Chapter 22 and Fire Code Chapter 40.

FC4001.10 Emergency response plan. The new section requires each distillery to prepare and maintain an emergency response plan, and train its staff to implement the plan, including appropriate mitigating and reporting actions necessitated by fire, leak or spill.

SECTION FC 4002
DEFINITIONS

FC4002.1 Definitions. The following new terms are set forth in this new section*: alcohol storage area; beverage alcohol (distilled spirits; finished goods; process alcohol; raw alcohol); chemical storage building; distilled spirits processing area; distillery (small distillery; medium distillery; large distillery); distillery equipment (alcohol process tank; closed alcohol process tank; open alcohol process tank; alcohol storage equipment; barrel; intermediate bulk container; alcohol storage tank; still); distillery operations (alcohol processing; bottling; distilling); distillery serving area; distillery waste products.*

SECTION FC 4003
DESIGN AND INSTALLATION REQUIREMENTS FOR DISTILLERY FACILITIES

FC4003.1 General. The section requires distilleries to submit design and installation documents for Fire Department review and approval.

FC4003.2 Occupancy type. The section specifies lawful buildings and occupancies for distilleries based upon quantities of flammable liquids at the premises. Small distilleries may be located in a building or space designed as an F-1 factory occupancy, and the distilled spirits processing areas, alcohol storage areas and barrel storage areas must be constructed with the fire barriers and horizontal assemblies required for a factory occupancy. A small distillery may be located in a mixed-occupancy building, except that no distillery shall be located in a building housing a Group E, R-2 or I occupancy, or in which Group A occupancy is the dominant occupancy, except as authorized by the Fire Department.

A medium distillery must be located in a high-hazard occupancy in a building in which Group F occupancy is the dominant occupancy. Medium distilleries must have the fire barriers and horizontal assemblies required for a high-hazard occupancy.

A large distillery must be located in a separate building or in a detached building, which is classified as a high-hazard occupancy.

These occupancy provisions are intended to expand the ability of distilleries with tasting rooms to be located in buildings suitable for such purposes. However, larger distilleries remain subject to occupancy restrictions (currently set forth in the Zoning Resolution) that reflect the incompatibility of distilled spirits manufacturing with other occupancy types.

FC4003.3 Maximum allowable quantity. The section establishes the maximum allowable quantity of alcohol, of any type, unless otherwise authorized by the Fire Department. The quantities reflect an understanding of the production capacity of different types of distillers in New York City, balanced against fire safety considerations, and derive in part from discussions with local distillers.

FC4003.4 Fire separations. The section requires a minimum of 1-hour fire barriers or horizontal assemblies, or both, constructed in accordance with the Building Code, including self-closing doors, to be installed to separate the various distillery operations from each other.

FC4003.4.1 Factory and high-hazard areas. The section requires that the distilled spirits processing areas, alcohol storage areas and barrel storage areas be constructed, in small distilleries, with the fire barriers and horizontal assemblies required for a factory occupancy, and, in medium distilleries, with the fire barriers and horizontal assemblies required for a high-hazard occupancy.

FC4003.4.2 Combined fire areas. The section establishes conditions that, if met, allow a distillery to combine distilled spirits processing areas, alcohol storage areas, barrel storage areas and other alcohol production areas in a single fire area. This provision was included in response to industry comments reflecting a preference for a single operating area. A combined fire area was allowed subject to various quantity and design restrictions because distilling operations in New York City are expected to be conducted in small spaces, not the large factories operating in other parts of the country. Fire separations (walls) are needed to mitigate the hazards of close operations, which elsewhere may be mitigated by physical separation and ceiling heights.

FC4003.5 Fire protection systems. The section establishes requirements for sprinkler systems, fire alarm systems and emergency alarm systems in distilleries of all sizes.

FC4003.6 Explosion control. The section requires medium and large distilleries to be provided with explosion control designed in accordance with FC911 to mitigate the impact of an explosion. This is necessary (and required by the New York City Building Code) because the heating of a flammable liquid in the still can potentially release flammable vapors with a flashpoint within the range of ordinary atmospheric conditions.

FC4003.7 Mechanical ventilation. The section requires that a mechanical ventilation system designed in accordance with the Mechanical Code be installed throughout the distillery.

FC4003.8 Electrical wiring and equipment. The section requires that, except for certain closed systems, special, explosion-proof (Class 1, Division 1) electrical wiring and equipment be

provided throughout the distilled spirits processing areas and alcohol storage areas in accordance with FC Table 5703.1.1 (for indoor equipment where flammable vapor/air mixtures could exist under normal operations).

FC4003.8.1 Lighting. The section requires that distilled spirits processing areas, excluding barrel storage areas, be well lighted to facilitate safe operation of distillery equipment and visibility of signage.

FC4003.9 Mechanical equipment. The section establishes requirements for the type of mechanical equipment, devices, and systems allowed in areas where flammable vapors may be present, in accordance with the Electrical Code, the Mechanical Code and NFPA Standard 30, as applicable.

FC4003.10 Environmental control. The section requires distilleries to be provided with an approved means to maintain an ambient room temperature and other environmental factors suitable for distilled spirits processing and alcohol storage, unless a design analysis indicates that the design and installation of the distillery allows it to be operated safely at ambient temperatures within specified parameters.

FC4003.11 Emergency power. The section requires gas detection systems (which detect flammable vapors and sound an alarm and/or activate mechanical exhaust systems), and any mechanical ventilation system designed to maintain flammable vapor concentration below the lower explosive limit, to be provided with an emergency power system in accordance with the Building Code.

FC4003.12 Spill control. The section establishes requirements for drainage or containment systems and other measures to restrict and control spills.

FC4003.13 Storage areas. The section references the design and installation requirements of alcohol storage areas set forth in FC4005.

FC4003.14 Impact protection. The section establishes requirements to protect distillery equipment from accidental impact from powered industrial trucks and other mechanical handling equipment in accordance with NFPA Standard 505 and distilled spirits industry standards.

FC4003.15 Lightning protection. The section requires medium and large distilleries that occupy a separate building to be provided with lightning protection in accordance with the Electrical Code and NFPA Standard 780.

SECTION FC 4004
DESIGN AND INSTALLATION REQUIREMENTS FOR DISTILLERY EQUIPMENT

FC4004.1 General. The section specifies design and installation requirements for distillery equipment.

FC4004.2 Listed and labeled. The section requires distillery equipment to be of a type tested and approved for use in distillery operations by a nationally recognized testing laboratory.

Alternatively, the section authorizes the Fire Department to accept international or other approved certifications for components which are not listed and labeled by a nationally recognized testing laboratory.

FC4004.3 Electrical wiring and equipment. The section requires that distillery equipment be bonded and grounded to protect against electrical discharge in accordance with the Electrical Code.

FC4004.4 Piping systems. The section establishes design, installation and maintenance requirements for piping systems used to convey Class I liquids.

FC4004.5 Stills. The section establishes design and installation requirements for stills, and requires that stills obtain a Certificate of Approval from the Fire Department, or on an interim basis, site-specific approval. The latter option was included based upon concerns expressed by local distillers about whether manufactures would seek Certificates of Approval for their equipment. This requirement is designed to afford the Fire Department an opportunity to evaluate the fire safety of such devices, to protect against improvised devices, and to address any fire safety issues arising from unusual still designs. The section also requires that stills be stationary and requires indirect heating elements, not open flames or exposed electrical elements.

SECTION FC 4005
STORAGE OF ALCOHOL IN DISTILLERIES

FC4005.1 Alcohol storage tanks and containers. The section establishes design and installation requirements for tanks and containers used to store flammable and combustible liquids in a distillery, where they are being stored for use in the distilling process and thereafter, for aging and bottling. The section carves out an exception to the Fire Code prohibition against the aboveground storage of flammable liquids in tanks by allowing raw alcohol and distilled spirits to be stored in aboveground storage tanks or aboveground intermediate bulk containers.

FC4005.2 Distillery storage locations. The section establishes requirements for the storage in a distillery of raw alcohol, process alcohol, distilled spirits and other alcohol (Class II or Class III liquids). Storage of such materials in other types of occupancies, such as warehouses or eating and drinking establishments, remain subject to the other applicable laws, rules and regulations.

FC4005.3 Barrel storage. The section establishes requirements for storage in a distillery of alcohol in barrels.

SECTION FC 4006
OPERATIONAL AND MAINTENANCE REQUIREMENTS FOR DISTILLERIES

FC4006.1 General. The section specifies operational and maintenance requirements for distilleries.

FC4006.2 Operation of distillery serving area in distilleries. The section requires that there be a fire separation between the distilling and other alcohol processing areas and tasting rooms (the places of assembly or public gathering places in which the public is served). Typically, a fire-rated window is provided in such fire separation to allow the public to observe the distilling

equipment. Consistent with the Construction Codes, for fire safety reasons commercial kitchens must be in their own fire area.

FC4006.3 Business operations area. The section requires, to the maximum extent practicable, that distilled spirits processing areas and alcohol processing areas in a distillery be used solely for distilling and alcohol processing, and that all other business operations, storage of other business equipment, deliveries and shipments be conducted in a separate business operations area. This reflects the concern that ordinary business activities, such as deliveries and storage of combustible materials and waste, pose fire safety risks that require their separation from the storage, handling and use of flammable liquids.

FC4006.4 Alcohol handling. The section incorporates by reference the requirements for flammable liquids set forth in FC5705.2.4, as amended, and makes them applicable to transfer of alcohol into and between distillery equipment.

FC4006.5 Barrel filling and emptying. The section requires barrel filling and emptying to be conducted in alcohol processing areas or bottling areas, unless the distillery is in compliance with the requirements for combined fire areas set forth in FC4003.4.2.

FC4006.6 Staffing of facility. The section requires the presence of a Certificate of Fitness holder on the premises whenever distilling or alcohol processing is being conducted and at certain other times. At least one other trained and knowledgeable person must be present on the premises when the quantity of alcohol undergoing distillation or alcohol processing exceeds 5 gallons (19 L). The exemption for low-volume distilling addresses very small craft distilling operations.

FC4006.7 Spill mitigation and reporting. The section establishes duties, procedures, and equipment required to mitigate leaks, spills or other uncontrolled discharges of raw alcohol or distilled spirits. The section incorporates by reference FC 5003.3.1, as amended, which sets forth requirements for reporting discharges to the Fire Department.

FC4006.8 Combustible materials. The section restricts where combustible materials may be stored at a distillery.

FC4006.9 Distillery waste products. The section requires that combustible waste generated as a by-product of distillery operations, including methanol and stillage, be collected and disposed of in accordance with FC304.

FC4006.10 Public access and tours. The section restricts the presence of non-essential persons in distilled spirits processing areas and alcohol storage areas during distilling or alcohol processing operations. However, public tours of distillery operations are allowed if authorized by the Fire Department and supervised by a Certificate of Fitness holder, reflecting the importance of such tours to distillery business operations.

FC4006.11 Maintenance of equipment. The section requires maintenance of distillery equipment in accordance with the original equipment manufacturer's instructions (copies of which must be maintained at the distillery and made available for inspection), distilled spirits industry standards, and all applicable laws, rules and regulations.

FC4006.12 Sources of ignition. The section provides that safety precautions be taken to prevent ignition of flammable liquids or vapors. The section prohibits smoking in distilleries and open flames in distilled spirits processing areas and other alcohol production areas (unless authorized by the Fire Department), and requires that safe ambient room temperatures be maintained.

FC4006.13 Signage and markings. The section incorporates signage requirements set forth in FC5003.5, as amended (which references the signage standards of NFPA Standard 704) and the signage requirements applicable to piping, which are set forth in FC5703.5, as amended.

FC4006.14 Portable fire extinguishers. The section incorporates by reference the portable fire extinguisher requirements set forth in FC906.

FC4006.15 Safety data sheets. The section requires safety data sheets to be maintained on the premises in accordance with new FC5003.4.

SECTION FC 4007
OTHER ALCOHOL PRODUCTION

This new section adopts separate, less stringent regulations for "other alcohol production" (production of non-flammable alcohol products generated in distilleries that are precursors to distilled spirits). These materials are specifically regulated in distilleries by virtue of their proximity to the manufacturing, storage, handling and use of flammable liquids.

FC4007.1 Scope. This section establishes requirements for materials and processes relating to precursors to alcohol production for distilling, for example, grain storage, milling, and fermenting.

FC4007.2 General. This section establishes design, installation, operation and maintenance requirements for alcohol production in distilleries (other than distilled spirits).

FC4007.3 Grain storage, handling and milling. This section establishes design, installation, operation, and maintenance requirements for distilleries using grain and other raw materials to address explosion hazards associated with combustible dust, as defined in FC2202.1. The section incorporates by reference the requirements of NFPA Standard 652 and the Building Code relating to combustible dust hazards.

FC4007.4 Design of facility. This section requires spaces used for grain storage, handling and milling, mashing and fermenting and/or related operations to have fire separations from distilled spirits processing areas, alcohol processing areas, alcohol storage areas (unless the distillery satisfies the design and installation requirements of FC4003). The section requires that spaces associated with other alcohol production be equipped with fire protection systems in accordance with FC4003.5, and prohibits mechanical equipment with burners or using other flames or exposed electrical elements. These regulations are designed to mitigate the potential fire safety risk to the distillery, including the flammable liquids being manufactured, stored, handled and used therein, arising from other alcohol production in the same occupancy.

FC4007.5 Other alcohol production waste. This section requires combustible liquids, combustible waste, and carbon dioxide to be handled in a manner appropriate for the hazard it presents. Additionally, the amended section requires installation of an oxygen sensor where the

carbon dioxide generated by other alcohol production may exceed United States Occupational Safety and Health Administration safety limits.

CHAPTER 41
RESERVED

This chapter, formerly entitled "Pyrophoric Materials," has been amended and reserved for future use, to conform to the IFC format. The provisions for pyrophoric materials have been relocated to new Fire Code Chapter 64.

CHAPTER 42
RESERVED

This chapter, formerly entitled "Pyroxylin Plastics," has been amended and reserved for future use, to conform to the IFC format. The provisions for pyroxylin plastics have been relocated to new Fire Code Chapter 65.

CHAPTER 43
RESERVED

This chapter, formerly entitled "Unstable (Reactive) Materials," has been amended and reserved for future use, to conform to the IFC format. The provisions for unstable (reactive) materials have been relocated to new Fire Code Chapter 66.

CHAPTER 44
RESERVED

This chapter, formerly entitled "Water Reactive Solids and Liquids," has been amended and reserved for future use, to conform to the IFC format. The provisions for water reactive solids and liquids have been relocated to new Fire Code Chapter 67.

CHAPTER 45
RESERVED

This chapter, formerly entitled "Referenced Standards," has been amended and reserved for future use, to conform to the IFC format. The provisions for referenced standards have been relocated to new Fire Code Chapter 80.

CHAPTER 46
THROUGH AND INCLUDING
CHAPTER 49
RESERVED

New FC Chapters 46 through and including 49 have been added to the Fire Code and reserved, to conform to the IFC format.

CHAPTER 50
HAZARDOUS MATERIALS – GENERAL PROVISIONS

This new chapter has been added to conform to the IFC format. The chapter incorporates general provisions for hazardous materials formerly set forth in Fire Code Chapter 27.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC5001.1 Scope. The section has been amended to reflect amendments to other Fire Code chapters and to conform to the amendments to New York State Department of Environmental Conservation regulations, 6 NYCRR Part 596 and Part 613, relating to Hazardous Substance Bulk Storage Facility Registration, and Bulk Storage and Used Oil Regulations.

Exception 6 has been amended to conform to new Fire Code terminology relating to stationary energy storage systems. Exception 9 has been amended to eliminate the exception for storage of distilled spirits and Exception 10 has been amended to exclude the manufacturing, storage, handling and use of distilled spirits in distilleries, which are now regulated by Fire Code Chapter 40. Former Exception 10, now renumbered Exception 11, has been amended to expand the exception for storage, handling and use of alcohol-based hand rubs consistent with the regulation of that material in accordance with FC5705.5, as amended.

FC5001.2.2 Hazard categories. This section has been amended to clarify that hazardous materials are classified in accordance with hazard categories.

SECTION FC 5002
DEFINITIONS

As amended, the term *material safety data sheet* has been deleted from this section and the Fire Code. This section, as amended, adopts a new term, *safety data sheet,* to conform to United States Occupational Safety and Health Administration (OSHA) terminology.

SECTION FC 5003
GENERAL REQUIREMENTS

FC5003.1.4 Quantities exceeding the maximum allowable quantity per control area. As amended, this section incorporates a cross-reference to the requirements of the Building Code for high hazard occupancies.

FC Table 5003.1.1(1) Maximum Allowable Quantity Per Control Area of Hazardous Materials Posing a Physical Hazard. This table, relating to the maximum allowable quantity (MAQ) of hazardous materials that may be stored in one fire area (an area enclosed by fire separations) has been amended to include combustible dust, consistent with the International Fire Code. The table also incorporates organizational changes and changes to footnotes to conform to the International Fire Code.

FC5003.4 Safety data sheets. As amended, this section adopts the new OSHA terminology for what were formerly called "material safety data sheets."

SECTION FC 5005
HANDLING AND USE

FC5005.1.5 Emergency power. As amended, this section eliminates an exception to the emergency power requirements for so-called fail-safe engineered systems to reflect the discontinuance of the use of such systems. As amended, all specified systems must be provided with emergency power unless they qualify for the remaining exception.

SECTION FC 5006
NON-PRODUCTION CHEMICAL LABORATORIES

FC5006.2 General. As amended, the section is clarified and expanded to include educational and institutional laboratory units as defined in NFPA Standard 45 and clarifies that the provisions of FC5006.2 are applicable to educational and institutional laboratory units as defined in that standard. The section, as amended, has been clarified to include the design requirement of a minimum one hour fire-rated construction for all laboratory units.

FC5006.5 Prohibitions. As amended, the section incorporates two new prohibitions relating to a non-production laboratory or any accessory storage of laboratory chemicals in a storage room. As amended, it is unlawful to store, handle or use liquefied petroleum gas in Group E and I occupancies in a manner contrary to FC6103.2.1.4. Additionally, as amended, and consistent with NFPA Standard 45 requirements, it is unlawful to store, handle or use Class 3 or 4 health hazard materials in an educational laboratory unit.

FC5006.6 Quantity limitations. As amended, this section clarifies that the quantity and the number of control areas allowed per floor are not applicable to laboratory units. Throughout the section, references to NFPA Standard 45 are amended to refer to modifications set forth in Appendix B.

FC5006.6.10 Hazardous Gases. As amended, this new section limits the quantity of hazardous materials stored, handled or used in each laboratory unit to the quantities set forth in NFPA Standard 45.

FC5006.6.10.1 Highly toxic, toxic, and corrosive gases. The section has been amended to delete the prohibition of hazardous gases in educational laboratory units, which is now set forth in FC5006.5 (10), as amended. The section, as amended, also establishes a new limitation to the amount of corrosive gases allowed in an instructional laboratory.

FC5006.6.10.2 Asphyxiant gases. As amended, this section requires an oxygen sensor in laboratory units when the quantity of cryogenic inert gases or refrigerated carbon dioxide stored, handled or used exceeds 60 gallons.

SECTION FC 5007
TRANSPORTATION OF HAZARDOUS MATERIALS

FC5007.4 Reserved. As amended, the requirements of this section have been eliminated consistent with changes to the permit requirements set forth in FC 105.1.2 and 105.6, as amended, which incorporated the permit for transportation of hazardous materials into the existing citywide permit. As amended, the section is now reserved.

FC5007.6.1 Approved vehicles. As amended, this section authorizes the Fire Department to allow transport of explosives to blasting sites and other locations in vehicles other than the special explosives transport vehicles approved by the Fire Department for use in New York City. This reflects the fact that, as a result of changes in the blasting industry, explosives are now being transported directly to blasting sites from storage facilities located outside of New York City.

FC5007.11 Route and time requirements. This section has been amended to require vehicles transporting hazardous materials to minimize travel on local, non-arterial roads to the maximum extent possible. Reference to a permit for transportation of hazardous materials has been eliminated consistent with a federal ruling finding the requirement preempted under federal law.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 51
AEROSOLS

This new chapter has been added to conform to the IFC format. The chapter incorporates existing provisions for aerosols formerly set forth in Fire Code Chapter 28.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

FC5101.6 Aerosol container size limitations. As amended, the section clarifies and revises requirements for aerosol products in plastic containers.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 52
RESERVED

Fire Code Chapter 52 has been added to the Fire Code and reserved for future use, to conform to the IFC format.

CHAPTER 53
COMPRESSED GASES

This new chapter has been added to conform to the IFC format. The new chapter incorporates existing provisions for compressed gases formerly set forth in Fire Code Chapter 30.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 5301
GENERAL

FC5301.4.1 Handling and use. As amended, this section clarifies that any person removing leaking, damaged or corroded compressed gas cylinders from service is subject to the Certificate of Fitness requirement if the quantity of compressed gas requires a Fire Department permit.

FC5301.4.5 Installation. As amended, this new section requires a Certificate of Fitness for persons installing, maintaining and repairing carbon dioxide beverage dispensing systems.

SECTION FC 5302
DEFINITIONS

FC5302.1 Definitions. As amended, this section incorporates a new term, *hyperbaric facility*, defined in Chapter 2 as amended. Hyperbaric facilities are regulated by FC5306.5, as amended.

SECTION FC 5306
MEDICAL GAS STORAGE

FC5306.1 General. As amended, this section incorporates a cross-reference to requirements of the Plumbing Code.

FC5306.2 Storage locations within buildings. This section, as amended, requires gas rooms located above or below grade to comply with the requirements of FC Table 5003.8.3.3 relating to fire-resistance rating and maximum number of gas rooms.

FC5306.5 Hyperbaric facilities. As amended, this new section adopts NFPA Standard 99 as a Referenced Standard for hyperbaric facilities. The section requires such facilities to be inspected, tested and maintained in accordance with that standard. The section prohibits most electronic devices inside hyperbaric facilities and specifies signage requirements for medical gas storage.

FC5306.7 Portable fire extinguishers. As amended, this new section clarifies that portable fire extinguishers be provided *outside* of the entrance to any indoor medical gas storage room. This is designed to ensure that there is ready access to a portable fire extinguisher without having to enter the storage room.

SECTION FC 5307
CARBON DIOXIDE BEVERAGE DISPENSING SYSTEMS

This new section incorporates design, installation, operation and maintenance requirements for beverage dispensing systems using carbon dioxide, include soft drink dispensers, from existing Fire Department rule 3 RCNY 3004-01.

The section requires a Certificate of Fitness to install a carbon dioxide beverage dispensing system. The filling of a carbon dioxide container also requires a Certificate of Fitness.

The section requires local-annunciating carbon dioxide detection and alarm systems, except in an aboveground storage room/area provided with a continuous ventilation system or a storage room/area equipped with a gas detection system in accordance with Fire Code Chapter 9, as amended.

Additionally, the section specifies various operational and maintenance requirements, including warning signs; periodic inspections of the system; user safety training; notification of the Fire Department and/or others in the event of a carbon dioxide leak; and the filing of affidavit of carbon dioxide beverage dispensing system installation, alteration and repair, and carbon dioxide release.

SECTION FC 5309
COMPRESSED GASES NOT OTHERWISE REGULATED

This new section incorporates existing requirements formerly set forth in FC3007.

FC5309.1 General. This section incorporates existing requirements previously set forth in FC3007.1 relating to compressed gases not otherwise regulated. The section has been amended to clarify that there must be compliance with the other requirements of the chapter only as applicable.

FC5309.2 Ventilation. This section incorporates existing requirements relating to ventilation previously set forth in FC3007.2.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 54
CORROSIVE MATERIALS

This new chapter has been added to conform to the IFC format. This chapter incorporates existing provisions for corrosive materials formerly set forth in Fire Code Chapter 31. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 55
CRYOGENIC FLUIDS

This new chapter has been added to conform to the IFC format. This chapter incorporates existing provisions for cryogenic fluids formerly set forth in Fire Code Chapter 32. No changes have been

made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 56
EXPLOSIVES, FIREWORKS, AND SPECIAL EFFECTS

This new chapter has been added to conform to the IFC format. This chapter incorporates existing provisions for explosives, fireworks, and special effects formerly set forth in Fire Code Chapter 33.

Substantive changes are described below. FC5607 has been substantially reorganized and revised to clarify the sequence of the application and approval process and application requirements, but much of the underlined text does not reflect substantive changes.

In addition to the changes described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections have been similarly renumbered.

SECTION FC 5601
GENERAL

FC5601.1 Scope. The section has been amended to use pyrotechnic special effects, a defined term, and other updated terminology, consistent with applicable laws, rules and regulations, and industry practice.

FC5601.1(6) Exceptions. The exceptions to the scope of the section have been amended to clarify that powder-actuated tool loads at construction sites are subject to existing provisions formerly set forth in FC1418 and incorporated in FC5606.8, as amended.

FC5601.2.4 Financial responsibility. As amended, the insurance requirement for special effects has been modified to reflect the distinction between pyrotechnic special effects and an additional new term, non-pyrotechnic special effects.

FC5601.3 Prohibited materials, operations and facilities. As amended, the section prohibits the storage, handling, use and sale of binary explosives (two-component products that, when combined, become an explosive).

FC5601.3.3 Pyrotechnic material. As amended, the section modifies certain prohibitions against the manufacture, storage, handling and use of pyrotechnic material to allow such activities when authorized by the Fire Department and conducted by a Fire Department Certificate of Fitness holder employed by a company holding a pyrotechnic special effects contractor certificate.

FC5601.3.4 Rocketry. As amended, the section establishes an exception to the prohibitions against model rocketry and high-power rocketry to allow such activities when authorized by a special effects permit issued by the Fire Department).

FC5601.5 Supervision. As amended, the section reorganizes existing requirements and sets forth new requirements for supervising the manufacturing, storage, handling, use, transportation and

sale of explosives, fireworks, and pyrotechnic and other special effects material, for blasting operations, fireworks displays, special effects, and any other material, operation or facility regulated by Fire Code Chapter 56.

As amended, multiple references to the authority of the Fire Commissioner to adopt rules prescribing the requisite qualifications and other requirements for these Fire Department Certificates of Fitness have been eliminated from this section as redundant, as such authority is already set forth in FC 104.1 and 202.

FC5601.5.1 Explosives. The section has been amended to conform the requirements for supervision of blasting and other uses of explosives to industry practices and existing Fire Department certificate requirements.

FC5601.5.1.1 Blasting contractor. As amended, the section clarifies existing provisions formerly set forth in FC3301.5.1.1 relating to supervision of the storage, handling, discharge or other use and transportation of explosives used for blasting operations.

FC5601.5.1.2 Blaster. As amended, the section clarifies existing provisions formerly set forth in FC3301.5.1.4 relating to supervision of the use of high explosives.

FC5601.5.1.3 Blasting personnel. As amended, the section clarifies existing provisions formerly set forth in FC3301.5.1.3 relating to handling of high explosives, including updating the titles of blasting personnel.

FC5601.5.1.4 Magazine keeper. The section is unchanged from existing provisions formerly set forth in FC3301.5.1.2 relating to the supervision of the storage of high explosives.

FC5601.5.1.5 Blast monitoring specialist. The section establishes a new Fire Department Certificate of Fitness for personnel monitoring the ground vibrations and air overpressure during blasting operations. Such personnel must be employed by a company holding a Fire Department company certificate for blast monitoring.

FC5601.5.2 Fireworks. The section has been amended to clarify and update existing Fire Department Certificate of Fitness requirements relating to supervision of fireworks displays.

FC5601.5.2.1 Fireworks contractor. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.1.3 relating to the discharge or other use of fireworks in fireworks displays or other events.

FC5601.5.2.2 Pyrotechnic operator. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.2.3 relating to the use of fireworks, including referring to the person who personally supervises fireworks displays as the pyrotechnic operator.

FC5601.5.2.3 Fireworks display personnel. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.2.3 relating to the use of fireworks, including referring to personnel assisting the pyrotechnic operator as fireworks display personnel.

FC5601.5.3 Pyrotechnic special effects. The section has been amended to distinguish between pyrotechnic special effects and non-pyrotechnic special effects and to conform the requirements for supervision of special effects to industry practices and existing Fire Department Certificate of Fitness requirements.

FC5601.5.3.1 Pyrotechnic special effects contractor. As amended, the section clarifies and updates existing provisions, formerly set forth in FC3301.5.3.4, including referring to the person or company conducting a special effects display as the pyrotechnic special effects contractor, rather than the pyrotechnic supplier.

FC5601.5.3.2 Pyrotechnic operator. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.3.1 relating to special effects and the use of pyrotechnic materials, articles and devices. As amended, the section clarifies the extent to which duties of the pyrotechnic operator may be delegated.

FC5601.5.3.3 Pyrotechnic special effects personnel. As amended, the section sets forth new provisions authorizing one or more pyrotechnic assistants, similar to fireworks display personnel, each of whom shall hold a Fire Department Certificate of Fitness for such purposes, to assist the pyrotechnic operator in the conduct of a special effects display, under his or her personal supervision.

FC5601.5.3.4 Storage and handling of pyrotechnic materials, articles or devices. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.3.2.

FC5601.5.4 Non-pyrotechnic special effects. The section establishes a new requirement limiting the discharge or other use of *non-pyrotechnic* special effects materials, articles and devices to companies holding a pyrotechnic special effects contractor certificate. As defined in Fire Code Chapter 2, as amended, non-pyrotechnic special effects are materials, articles and devices of a flammable, combustible or otherwise dangerous nature, including demonstration laser products and chemicals and equipment used to generate fog or haze. Non-pyrotechnic special effects create fire safety hazards, such as a special effects haze obscuring the means of egress).

FC5601.5.4.1 Pyrotechnic operator. The section establishes a new requirement that non-pyrotechnic special effects displays be conducted under the personal supervision of a pyrotechnic operator. The section establishes the duties of the pyrotechnic operator in relation to non-pyrotechnic special effects and clarifies whether and when such duties may be delegated.

FC5601.5.4.2 Non-pyrotechnic special effects personnel. The section sets forth new provisions authorizing one or more pyrotechnic assistants to assist the pyrotechnic operator in the conduct of a non-pyrotechnic special effects display, under his or her personal supervision, in the same manner as the pyrotechnic operator is assisted in the conduct of a pyrotechnic special effects display, as set forth in FC5601.5.3.3.

FC5601.5.4.3 Storage and handling of non-pyrotechnic materials, articles or devices. As amended, the section clarifies and updates existing provisions formerly set forth in FC3301.5.3.3.

FC5601.5.5. Powder-actuated tool loads. As amended, the section incorporates existing requirements formerly set forth in FC1418.1 relating to supervision of powder-actuated tool loads at construction sites.

FC5601.9 Transportation of regulated materials. As amended, the section revises provisions relating to transportation of explosives to job sites to reflect changes in industry practices. The section provides that vehicles transporting explosives are subject to Fire Department inspection and Fire Department escort. The amended section clarifies the requirement for Fire Department escort during transportation of explosives and fireworks by referencing restrictions on transportation of explosives on bridges and in tunnels.

SECTION FC 5602
DEFINITIONS

FC5302.1 Definitions. As amended, the section adopts the following new terms relating to blasting: *blast monitoring certificate; blast monitoring specialist; blast vibration monitoring*; *blasting operations; blasting seismograph; frequency; geophone; global strain method; global shear wall strain; global tensile wall strain; ground vibration; intensity; microphone; peak particle velocity (PPV);* and *strain. The section has been* amended to delete the term *airblast* and replace it with *air overpressure*.

The section has been amended to delete the term *assistant blaster* and replace it with *apprentice blaster*.

The section has been amended to delete the redundant term *danger zone,* which has been eliminated from the Fire Code, as amended, in favor of the existing term *blast area*.

As amended, the section adopts the following new terms associated with special effects: *pyrotechnic; pyrotechnic effect simulation; pyrotechnic effect simulation equipment; pyrotechnic special effect; non-pyrotechnic special effect;* and *pyrotechnic special effects contractor certificate.*

The section has been amended to delete the term *pyrotechnic supplier certificate* and replace it with the term *pyrotechnic special effects contractor certificate*.

The amended section also adopts the new term *binary explosive.*

All terms are defined in Chapter 2, as amended.

SECTION FC 5603
EXPLOSIVES RECORDKEEPING AND REPORTING

FC5603.1 General. The section has been amended to require vendors providing high explosives to job sites and/or storage facilities in New York City and blasting contractors conducting blasting operations in New York City to comply with the regulations of applicable Federal and New York State agencies with respect the preparation, maintenance and retention of records of the storage, handling and transportation of such explosives.

FC5603.2.3 Submission to the department. As amended, the section requires blast monitoring reports to be submitted to the Fire Department on a daily basis in accordance with FC5607.19.4, as amended.

FC5603.5 Misfires. As amended, the section clarifies existing requirements formerly set forth in FC3307.15 to notify the Fire Department of any charges that fail to detonate and cross-references the existing requirements of FC5607.18, as amended.

FC5603.6 Safety data sheets. The section has been amended to conform to current OSHA terminology for what was formerly referred to as "material safety data sheets."

FC5603.8.2 High explosives cartridges. The section has been amended to grant the Fire Department discretion with respect to the markings required on high explosives cartridges.

SECTION FC 5604
EXPLOSIVES STORAGE AND HANDLING

FC5604.1 General. In this section and FC5606, as amended, reference to "primers" has been revised to "small arms primers" to clarify the type of primers being regulated.

FC5604.2 Storage facility locations. The section has been amended to grant the Fire Department discretion with respect to delivery of high explosives directly to job sites, rather than first to a vendor's facility. This revision responds to changes in industry facilities and practices. The section has also been amended to clarify the Fire Department's existing authority to regulate the delivery to and removal of explosives from the job site.

FC5604.3.1 High explosives. The section has been amended to conform the terminology for explosives magazines to the applicable Federal regulatory terminology, which refers to "types" not "classes" of magazines, and to clarify that high explosives may be stored in a Type 3 magazine if such magazine is under the personal supervision of an appropriate holder of a Certificate of Fitness.

FC5604.3.4 Access. As amended, the section clarifies when and whether persons may enter or possess keys to enter a magazine in which explosives are stored, to better reflect actual job site practices.

FC5604.5.1 Indoor magazines. The section has been amended to cross-reference and conform to FC5606.5.2, as amended.

FC5606.5.2.2 Black powder. The section has been amended to conform to Federal requirements with respect to the storage of black powder in Type 2 magazines.

FC5606.8 Powder-actuated tool loads at construction sites. This amended section incorporates existing requirements formerly set forth in FC1418 relating to the storage, handling and use of powder-actuated tool loads at construction sites.

SECTION FC 5607
BLASTING OPERATIONS

As amended, existing requirements have been comprehensively reorganized throughout this section.

The provisions relating to the blasting permit application, formerly set forth in FC3307.16, have been incorporated in FC 5607.2.1 and 5607.2.2, as amended.

The provisions relating to blasting safety, formerly set forth in FC 3307.5, have been incorporated in FC5607.9, as amended.

FC5607.2. Permit applications. As amended, the section reorganizes and clarifies the blasting application and approval process, including submission of a pre-blasting survey, blasting plan, monitoring plan, and site security plan (formerly set forth in part in FC 3307.8 and 3307.16.2).

FC5607.2.1 Pre-blasting survey. As amended, the section contains requirements formerly set forth in FC3307.16.1.

FC5607.2.1.1 Assessment of existing conditions. As amended, the section contains requirements formerly set forth in FC3307.16.1. Additionally, the section references the new requirements set forth in FC5607.19.1, as amended, relating to monitoring and measurement of blasting vibration limits and calculation of global strain.

FC5607.2.1.2 Updating of pre-blasting survey. As amended, the section incorporates existing requirements formerly set forth in FC3307.16.1.

FC5607.2.2 Blasting plan. As amended, the section incorporates existing requirements formerly set forth in FC3307.16.2 and clarifies specific information required by the Fire Department in order to evaluate the permit application.

FC5607.2.3 Monitoring plan and vibration limits. The section has been added to codify as part of the blasting application process the existing practice of requiring submission of a "monitoring plan" to monitor ground vibration and air overpressure.

FC5607.3 Site survey meetings. The section has been added to codify as part of the blasting application process the existing practice of requiring a "site survey" in the same manner as FC3308.2.4 provides for fireworks displays. Such site surveys facilitate the Fire Department's evaluation of the application and the measures that the blasting contractor will be required to undertake to safeguard affected buildings, structures and infrastructure.

FC5607.4 Notice of blasting application. As amended, the section incorporates existing requirements previously set forth in FC3307.5.4 relating to the provision of notice to council members, community boards, and affected property owners. The section also incorporates the related requirement, formerly set forth in FC 3307.5, for the permit applicant to invite owners of affected buildings to the multi-party meeting required in FC5607.5, as amended.

FC5607.5 Multi-party coordination meeting. As amended, the section reorganizes existing requirements (formerly set forth in FC3307.5) for the multi-party coordination meeting to be organized by the owner or the blasting contractor.

FC5607.5.1 Supporting documentation. The section has been added to require the submission of certain documentation with the Department of Buildings in advance of the multi-party coordination meeting.

FC5607.5.2 Utility coordination and notification. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.1.

FC5607.5.3 Minimizing impact of blasting operations on surrounding buildings. As amended, the section incorporates existing provisions formerly set forth in FC3307.5.2.

FC5607.6 Final review and approval of permit application. The section has been added to codify existing practice relating to Fire Department determination and/or approval of the blasting permit application.

FC5607.7 Notice of the commencement of blasting operations. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.4.

FC5607.8 Permit issuance. The section has been added to clarify the basis for blasting permit issuance and the timing of such issuance.

FC5607.9.1 Designation of blast area and blast site. As amended, the section clarifies the Fire Department's existing role in approving the dimensions of the blast area and blast site, including the requirements formerly set forth in FC3301.5.1.4.

FC5607.9.3 Blasting operations near or adjacent to natural gas utility infrastructure. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.1.1.

FC5607.9.4 Demolition blasting. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.1.2.

FC5607.9.5 Submarine (underwater) blasting. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.1.3.

FC5607.9.6 Blasting in congested areas. As amended, the section incorporates existing requirements formerly set forth in FC5607.5.3.

FC5607.9.10 Fire company access and inspection. As amended, the section incorporates existing requirements formerly set forth in FC3307.5.5 and codifies existing Fire Department practices.

FC5607.11 Security. As amended, the section incorporates existing requirements formerly set forth in FC3307.8 and references the site security plan required by FC5607.2.

FC5607.17 Post-blasting procedures. As amended, the section incorporates existing requirements formerly set forth in FC3307.17.1, and clarifies the actions to be taken if and when blast impacts exceed threshold limits. The section also sets forth the role and authority of the blast monitoring specialist in such circumstances.

FC5607.18. Misfires. As amended, the section incorporates a cross-reference to the Fire Department notification requirements set forth in FC5603.5, as amended.

FC5607.19 Monitoring blast impacts. As amended, the section incorporates existing provisions from FC3307.17 and establishes new requirements for monitoring ground vibrations and air overpressure generated by blasting operations. The section requires the seismic services consultant retained by the building owner or blasting contractor to hold a Certificate of Fitness for blast monitoring.

FC5607.19.1 Limits. As amended, the section incorporates existing provisions formerly set forth in FC3307.17.1, and establishes new limits for maximum allowable ground vibrations for all buildings and structures four stories or taller in height, except those with landmark or historical status or in a fragile or vibration-sensitive condition. These changes are based upon studies conducted of blasting vibrations in New York City and supported by the professional knowledge and experience of engineers and the Fire Department's Explosives Unit.

FC Table 5607.19.1 Maximum Allowable Ground Vibrations From Blasting Operations. This new table has been added to provide a clear representation of maximum allowable ground vibrations. The solid black line represents the existing thresholds which are predicated on decades-old limits developed by the U.S. Bureau of Mines. The dotted line reflects the new limits applicable only to certain buildings based on studies of ground vibrations generated by blasting in New York City bedrock.

FC5607.19.1.2 Maximum allowable global tensile wall strain. The section has been added to require a calculation of the global tensile wall strain on exterior walls of buildings affected by blasting vibrations, so as to better evaluate whether the vibrations have had any impact on the building. The section requires global tensile wall strain to be calculated any time the maximum allowable ground vibrations are exceeded.

FC5607.19.1.3 Air overpressure. As amended, the section incorporates existing limits for air overpressure formerly set forth in FC3307.17.1 (and formerly referred to as airblast). The section requires the placement of microphones and other equipment at carefully selected locations to accurately measure the impact of air overpressure on affected buildings. The section also requires the calculation of global tensile wall strain in accordance with FC5607.19.1.2 if air overpressure limits are exceeded.

FC5607.19.1.4 Noise. As amended, the section incorporates existing provisions formerly set forth in FC3307.17

FC5607.19.2 Ordering discontinuance of blasting operations. The section grants authority to the blast monitoring specialist to halt blasting operations, and requires him or her to do so, upon a determination that ground vibrations or air overpressure have exceeded permissible limits. The

section also requires the Fire Department to be notified and an investigation to commence to ascertain whether buildings or structures have been damaged.

FC5607.19.3 Equipment. The new section authorizes the Fire Department to establish by rule minimum requirements for the equipment used to monitor ground vibrations and air overpressure.

FC5607.19.4 Reporting. The section incorporates and clarifies the existing notification requirements formerly set forth in FC3307.17.2 relating to immediate notification. The section also codifies existing Fire Department practices requiring daily reporting of blasting results.

FC5607.20 Recordkeeping. The section incorporates existing provisions formerly set forth in FC 3307.16.4.

FC5607.21 Interagency coordination. The section incorporates existing provisions formerly set forth in FC 3307.18.

FC5607.22 Post-blasting survey. The section incorporates existing provisions formerly set forth in FC 3307.16.3.

SECTION FC 5608
FIREWORKS DISPLAYS

FC5608.2.4 Site inspection. As amended, the section references the Fire Department's authority to monitor pre-display and post-display operations for fireworks displays conducted in New York City, including pre-display and post-display operations conducted in neighboring jurisdictions.

FC5608.3.1 Shell size restrictions. The maximum shell size for aerial shells or other aerial fireworks has been reduced from 12 to 10 inches, unless authorized by the fireworks display permit, to provide an increased measure of safety.

FC5608.5.1 Delivery and unloading. As amended, the section incorporates existing requirements formerly set forth in FC3308.5. and codifies existing Fire Department practice that fireworks may not be unloaded from delivery vehicles except in the presence of a Fire Department representative.

FC5608.6.1 Mortar construction and size. The section has been added to specify that mortars be constructed of steel or high-density polyethylene, and the size of the mortar be sufficient to safely discharge the shells placed in it. This is to ensure that only well-constructed and properly-sized mortars are used in fireworks displays.

FC5608.6.2 Mortar placement. The section has been amended to more strictly regulate the receptacles (drums or racks) into which mortars are placed.

FC5608.6.3 Mortar loading. The section has been amended to eliminate a requirement, the need for which has been obviated by materials and procedures currently in use.

FC5608.6.7(4) Offshore displays. The section has been amended to clarify the Fire Department's authority to monitor installation, loading and fusing on barges in New York City or in neighboring jurisdictions.

SECTION FC 5609
SPECIAL EFFECTS

This section has been revised to conform to the new certificate requirements, including eliminating the requirement for a production company special effects permit, formerly set forth in FC3309.5.

The section has also been revised to reflect the distinction between pyrotechnic and non-pyrotechnic special effects.

FC5609.1 Scope. As amended, the section expands the scope of the chapter to regulate special effects that do not involve use of explosive or hazardous materials but otherwise present fire safety concerns, including lasers, chemical fogs and simulated pyrotechnic special effects involving the use of sparking devices.

FC5609.2 Prohibited conduct. As amended, the section requires a special effects permit to store, handle, discharge or otherwise use the pyrotechnic or non-pyrotechnic special effects materials, articles or devices.

FC5609.4 Special effects permit. The section has been amended to incorporate the updated terminology related to the pyrotechnic operator and other special effects personnel.

FC5609.4.2 Permit applications. The section has been amended to require that special effects permit applications be submitted at least 7 days prior to the proposed special effect display to provide sufficient time for the Fire Department to fully evaluate and render a determination on the application. The section has also been amended to require the owner of the premises to provide written consent for the special effects display and to clarify that certification of the flame resistance of the set, scenery, curtains, and rigging materials must be made by a Fire Department Certificate of Fitness holder.

FC5609.6.2 Out of service. The section has been amended to clarify the requirements for placing fire alarm systems out of service during special effects. As amended, the section allows individual initiating devices, such as smoke or heat detectors, not to exceed 1000 square feet of coverage, to be placed out of service on a limited basis when authorized by the special effects permit, However, the section requires that when special effects are regularly conducted at premises, the fire alarm system must be designed (and, if necessary, re-designed) to accommodate such special effects by minimizing the area affected when the fire alarm system is placed out of service.

FC5609.6.3 Obscuring egress. The section has been amended to include illustrative non-pyrotechnic special effects that would obscure the visibility of egress.

FC5609.15 Storage of special effects materials in television studios and other production facilities. The section has been amended to reflect the storage of special effects in production facilities as well as television studios.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 57
FLAMMABLE AND COMBUSTIBLE LIQUIDS

This new chapter has been added to conform to the IFC format. This chapter incorporates existing provisions for flammable and combustible liquids formerly set forth in Fire Code Chapter 34.

Except as otherwise describe below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 5701
GENERAL

FC5701.1 Scope. The scope of the section has been amended to reflect amendments to New York State Department of Environmental Conservation (DEC) regulations and amendments to the Fire Code in this local law.

DEC's Hazardous Substance Bulk Storage Facility Registration and Bulk Storage and Used Oil Regulations, referenced in FC5701.1, have been renumbered, and FC5701.1 has been amended accordingly.

The exceptions to the application of Fire Code Chapter 57 set forth in this scope section have also been amended. Exception 8 has been amended to eliminate the exception for storage of distilled spirits in wooden barrels and casks, which Fire Code Chapter 40 will now address in connection with the regulation of distilleries. A companion provision, new Exception 9, has been added to exclude from the scope of Fire Code Chapter 57 the manufacturing, storage, handling and use of distilled spirits in distilleries.

A new Exception 10 has been added to exclude from the scope of Fire Code Chapter 57 commercial cooking oil storage systems, which are regulated in FC610.

FC5701.6.2 Storage. As amended, the existing supervision (Fire Department Certificate of Fitness) requirement for 275 gallons of alcohol-based hand rubs has been revised to apply to alcohol-based hand rubs in consumer-product (non-bulk) packaging. This distinction is being made consistent with Fire Department guidance in response to the COVID pandemic, which encourages use of alcohol-based hand rubs in consumer product packaging because of the significantly lower fire safety risk associated with packaging that does not require manual filling of hand sanitizer dispensers or other handling of the flammable liquid.

FC5701.6.3 Handling and use. The section, which requires a Fire Department Certificate of Fitness for handling and use of a flammable liquid in the amounts set forth in FC5701.6.2, has been revised to exclude alcohol-based hand rubs in consumer-product packaging.

FC5701.6.4 Fleet fueling operations. This new section has been added to establish a requirement for a Fire Department Certificate of Fitness for fleet fueling operations, which is authorized and regulated in FC5707.

SECTION FC 5702
DEFINITIONS

FC5702.1 Definitions. As amended, this section incorporates a new term, *fleet fueling*, defined in Chapter 2 as amended. Fleet fueling is regulated by FC5707, as amended.

SECTION FC 5704
STORAGE

FC5704.2.1 Change of tank contents. The section, as amended, clarifies the requirements for prior Fire Department notification and approval when a fuel storage tank approved for one type of hazardous material is to be used for a different hazardous material. Such approval serves to ensure that the tank is designed for or compatible with storage of the new hazardous material, will not leak, and is adequately protected.

The section specifically provides that fuel storage tanks that previously contained combustible motor fuel may be used for biodiesel motor fuel as set forth in FC2307. Currently, such conversion requires Fire Department approval. As amended, the section authorizes change of tank contents to biodiesel fuel without Fire Department approval where the biofuel content of the motor fuel does not exceed 20 percent. Approval of the department is required for a change in contents to biodiesel only if the biofuel content exceeds 20 percent.

FC5704.2.7.3.2 Vent-line flame arresters and venting devices. The section, as amended, clarifies that flame arresters are required for all storage tanks containing Class IB and IC flammable liquids, except when the installation would damage the tank. As amended, the section eliminates the flame arrester requirement for protected aboveground storage tanks storing certain flammable liquids, consistent with the International Fire Code and NFPA Standard 30.

FC5704.2.7.6 Repair or alteration of tanks and piping. The section has been amended to incorporate a cross-reference to FC3510, as amended, which regulates hot work.

FC5704.3.1.2 Barrel storage of distilled spirits. The new section has been added to require that distilled spirits in barrels must be stored in a liquid storage warehouse (except as otherwise provided in Fire Code Chapter 40 in distilleries).

SECTION FC 5705
HANDLING AND USE

FC5705.5 Alcohol-based hand rubs classified as Class I or Class II liquids. The section has been reorganized and revised to allow and address the widespread use of alcohol-based hand rubs (ABHR) consistent with current Fire Department guidance issued during the pandemic.

The section (formerly, FC3405.5) originally addressed use of ABHR in health care facilities, and its provisions reflected the design of such facilities and the type of dispensers used therein. The amended section addresses use of ABHR by the general public, and in occupancies other than health care facilities, distinguishes between wall dispensers and other types of ABHR dispensers, allows use of other types of dispensers, including touch-free dispensers with certain design features.

As amended, the section distinguishes between consumer-product alcohol-based hand rubs (ABHR) (sealed dispensers/refills up to 68 ounces) from ABHR in bulk packaging (dispensers/containers that require manual pouring and handling). This distinction is reflected in amended FC105.6, which clarifies and revises ABHR permit requirements by requiring a permit for more than 275 gallons of consumer-product ABHR, consistent with existing Certificate of Fitness requirements, and treats ABHR in bulk packaging like other flammable liquids, requiring a permit for more than 5 gallons and a Certificate of Fitness for handling.

As amended, the section incorporates the International Fire Code provision excluding ABHR in dispensers in use from the maximum allowable quantity (MAQ).

SECTION 5707
FLEET FUELING OPERATIONS

This new section allows *fleet fueling*, a new Fire Code term to refer to mobile fueling of fleet vehicles with diesel motor fuel from a cargo tank truck at site-specific, off-street locations. Currently, fleet fueling is allowed only by variance. The new section allows fleet fueling operations as of right (eliminating the current requirement of a Fire Department plan review), subject to the location, permit, supervision and operational requirements set forth or referenced in the section.

FC5707.2 Site plan. The section requires that a site plan be prepared and maintained at each fleet fueling location or other approved location identifying all buildings, structures and property lines; adjoining property uses; proposed fueling locations; and slope, drainage, storm drains and other relevant site conditions.

FC5707.3 Scope and duration of fleet fueling operations. The section restricts the scope and duration of fleet fueling at a site. The section requires that fleet fueling operations be conducted during approved hours. The section restricts the cargo tank truck to fleet fueling operations and requires that it leave the fleet facility after completing such operations.

FC5707.4 Location of dispensing at fleet facility. The section prohibits fleet fueling on public streets, fire apparatus access roads, roof-level parking areas, indoor spaces and other locations for fire safety reasons.

FC5707.5 Cargo tank and dispensing equipment. The new section requires fleet fueling to be conducted from a cargo tank complying with DOTn regulations or other approved vehicle, subject to certain limitations. These provisions codify existing Fire Department practices in granting fleet fueling variances.

FC5707.6 Fleet fueling procedures. The new section sets forth specific procedures for fleet fueling operations. These provisions codify existing Fire Department practices in granting fleet fueling variances.

FC5707.7 Emergency procedures. The section requires that the fleet owner and the provider of fleet fueling services prepare and maintain a written fire safety and emergency response plan that

sets forth policies and procedures for compliance with the requirements of this section and safety measures, including the spill prevention and control requirements set forth in the section.

FC5707.8 Portable fire extinguisher. The section requires a portable fire extinguisher on the cargo tank truck with signage clearly indicating its location.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 58
FLAMMABLE GASES

This new chapter has been added to conform to the IFC format. This chapter incorporates existing provisions for flammable gases formerly set forth in Fire Code Chapter 35.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 5802
DEFINITIONS

FC5802.1 Definitions. As amended, this section incorporates two new terms defined in Chapter 2: *gaseous hydrogen* and *hydrogen fuel gas room*. Hydrogen fuel gas rooms produce gaseous hydrogen for energy generation and are regulated by a new section, FC5808.

SECTION 5808
HYDROGEN FUEL GAS ROOMS

This new section establishes requirements for the generation, storage, handling and use of gaseous hydrogen. The section requires gaseous hydrogen to be generated only in hydrogen fuel gas rooms and only for immediate consumption. Storage other than incidental storage is prohibited, as is storage in rooms below grade.

The section adopts NFPA Standard 2 as the Referenced Standard applicable to hydrogen fuel gas rooms. The section requires that such rooms be constructed in accordance with the Building Code and requires provision of fire protection systems and measures, including flammable gas detection, explosion control and emergency power.

The section, as amended, requires design and installation documents to be submitted for review and approval to the Department of Buildings and the Fire Department.

SECTION 5811
COMPRESSED NATURAL GAS

This new section incorporates existing requirements formerly set forth in FC3508.

No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 59
FLAMMABLE SOLIDS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for flammable solids formerly set forth in Fire Code Chapter 36. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 60
HIGHLY TOXIC AND TOXIC MATERIALS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for highly toxic and toxic materials formerly set forth in Fire Code Chapter 37. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 61
LIQUEFIED PETROLEUM GASES

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for liquefied petroleum gas (LGP) formerly set forth in Fire Code Chapter 38.

Except as otherwise described below, existing sections have been renumbered to conform to the IFC format, and cross-references to Fire Code chapters and sections, as amended, have been similarly renumbered.

SECTION FC 6102
DEFINITIONS

FC6102.1 Definitions. As amended, this section incorporates a new term, *automated container exchange system*, defined in Chapter 2 as amended. Automated container exchange systems are regulated by FC6109.15, as amended.

SECTION FC 6109
STORAGE OF PORTABLE LPG CONTAINERS

FC6109.15 LPG container storage for sale. This new section has been amended to clarify and revise requirements for the outdoor storage of LPG containers for sale at retail stores, including LPG container exchange stations, in areas accessible to the public. As amended, the section limits aggregate quantity to 400 pounds and limits individual container size to 20 pounds. Containers must be secured and accessible only by a Certificate of Fitness holder or stored in an automated container exchange system. The amended section also specifies signage requirements.

FC6109.15.1 Automated container exchange systems. This amended section allows automated container exchange systems for outdoor storage and sale of LPG containers contingent upon specific requirements. The amended section requires the system to operate only during regular business hours under the supervision of a Certificate of Fitness holder. The system must be in view from the store (or via closed circuit television monitor) to prevent tampering. As amended, only one container may be accessed per transaction. Systems must be provided with manual override and other safety features and inspected regularly.

All other amendments to this section have been made solely for editorial/formatting/grammatical purposes.

CHAPTER 62
ORGANIC PEROXIDES

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for organic peroxides formerly set forth in Fire Code Chapter 39. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 63
OXIDIZERS, OXIDIZING GASES AND OXIDIZING CRYOGENIC FLUIDS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for oxidizers, oxidizing gases and oxidizing cryogenic fluids formerly set forth in Fire Code Chapter 40. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 64
PYROPHORIC MATERIALS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for pyrophoric materials formerly set forth in Fire Code Chapter 41. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 65
PYROXYLIN PLASTICS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for pyroxylin plastics formerly set forth in Fire Code Chapter 42. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 66
UNSTABLE (REACTIVE) MATERIALS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates existing provisions for unstable (reactive) materials formerly set forth in Fire Code

Chapter 43. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 67
WATER-REACTIVE SOLIDS AND LIQUIDS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates provisions for water-reactive solids and liquids formerly set forth in Fire Code Chapter 44. No changes have been made to existing provisions other than to renumber sections and cross-references to Fire Code chapters and sections, as amended, to conform to the IFC format.

CHAPTER 68
THROUGH AND INCLUDING
CHAPTER 79
RESERVED

FC Chapters 68 through and including 79 have been added to the Fire Code, as amended. Such chapters are reserved, as amended, to conform to the IFC format.

CHAPTER 80
REFERENCED STANDARDS

This new chapter has been added to conform to the IFC format. As amended, this chapter incorporates provisions formerly set forth in Fire Code Chapter 45.

SECTION FC 8002
LIST OF REFERENCED STANDARDS

This section has been amended to add the following new Referenced Standards: ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standard 15; California Technical Bulletins 116 and 117; United States Department of Transportation (DOTn) Standards 49 CFR Part 179, Part 180, Part 190 through Part 199 and 49 CFR Part 350 through Part 399; Factory Mutual Research Corporation Standard ANSI/FM 4996; International Institute of Ammonia Refrigeration Standards IIAR-2, IIAR-6, IIAR-7, IIAR-8 and IIAR-9; International Kitchen Exhaust Cleaning Association Standard ANSI/IKECA C10; National Fire Protection Association Standards 2, 15, 56, 68, 88A, 96, 140, 307, 318, 326, 385, 400, 652, 664 and 855; and Underwriters Laboratories Standards 80, 142, 268, 300A, 499, 864, 1564, 1741, 1973, 2017, 2075, 2200, 2272, 2360, 2849, 9540 and 9540A.

The Referenced Standards have been amended as follows:

<u>American Petroleum Institute Standards</u>

API Standard RP 1604 has been updated from the 2001 edition to the 2010 edition.

API Standard RP 2028 updated from the 2002 edition to the 2012 edition.

API Standard RP 2350 has been updated from the 3rd, 2005 edition, to the 4th, 2012 edition.

ASHRAE (American Society of Heating, Refrigerating and Air-Conditioning Engineers, Inc.) Standards

ASHRAE Standard 15 (2013 edition) has been adopted as a new Referenced Standard. The Fire code adopts this standard only with respect to the installation, operation and maintenance of the refrigerating systems.

The American Society of Mechanical Engineers Standards

ASME Standard A13.1 has been updated from the 2007 edition to the 2015 edition.

ASME Standard B31.1 has been updated from the 2007 edition to the 2012 edition.

ASME Standard B31.3 has been updated from the 2008 edition to the 2012 edition.

ASME Standard B31.4 has been updated from the 2006 edition to the 2012 edition.

ASME Standard B31.9 has been updated from the 2008 edition to the 2017 edition.

ASME Standard BPVC has been updated to include 2011 addenda.

ASTM International Standards

ASTM Standard D 56 has been updated from the 2005 edition to the 2010 edition.

ASTM Standard D 86 has been updated from the 2010a edition to the 2012 edition.

ASTM Standard D 92 has been updated from the 2005a edition to the 2012b edition.

ASTM Standard D 93 has been updated from the 2010a edition to the 2012 edition.

ASTM Standard D 3278 has been updated from the 2004 edition to 2011 edition.

ASTM Standard E 1354 has been updated from the 2004a edition to the 2013 edition.

ASTM Standard E1529 has been updated from the 2010 edition to the 2013 edition.

ASTM Standard E 1537 has been deleted as a Referenced Standard and new California Technical Bulletins 116 and 117 has been adopted as flammability standards for upholstered furniture in certain occupancies.

ASTM Standard E 1590 has been updated from the 2007 edition to the 2013 edition.

ASTM Standard F 2200 has been updated from the 2005 edition to the 2013 edition.

California Technical Bulletins

California Technical Bulletin 116 has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the flame retardance test procedure for newly-introduced upholstered furniture in Occupancy Groups I-1, I-2, I-3 and R-1 college and university dormitories.

California Technical Bulletin 117 (2013 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the smolder resistance test of materials used in newly-introduced upholstered furniture in Occupancy Groups I-1, I-2, I-3 and R-1 college and university dormitories.

California Technical Bulletin 133-1991 has been deleted as a Referenced Standard. Technical Bulletin 133, The Flammability Test Procedure for Seating Furniture for Use in Public Occupancies, was repealed effective January 22, 2019.

Compressed Gas Association Standards

CGA Standard C-7 has been updated from the 2004 edition to the 2011 edition.

CGA Standard S-1.1 has been updated from the 2005 edition to the 2011 edition.

CGA Standard S-1.3 has been updated from the 2005 edition to the 2008 edition.

United States Department of Transportation Standards

This Section in Referenced Standards has been reorganized. DOTn Standards 49 CFR Standard Section 173.52, 49 CFR Part 178, 49 CFR Part 172 and 49 CFR Sections 173.136 & 137 have been deleted as separate references. DOTn Standards 49 CFR Parts 100 to Parts 180 have been adopted as a new Referenced Standard. The code adopts this standard only with respect to hazardous materials regulations.

DOTn Standards 49 CFR Part 190 through Part 199 have been adopted as new Referenced Standards. The code adopts these standards only with respect to the Pipeline Safety.

DOTn Standards 49 CFR Part 350 through Part 399 have been adopted as new Referenced Standards. The code adopts these standards only with respect to the Federal Motor Carrier Safety Regulations.

Factory Mutual Research Corporation

Standard ANSI/FM 4996 (2013 edition) has been adopted as a new Referenced Standard. The Fire code adopts this standard only with respect to combustible plastic pallets, and to regulate them in a manner similar to wood pallets.

International Institute of Ammonia Refrigeration

International Institute of Ammonia Refrigeration Standard IIAR-2 (2014 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to system design, installation, operation and maintenance for refrigerating systems using ammonia refrigerant.

International Institute of Ammonia Refrigeration Standard IIAR-6 (2019 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the requirements for inspection, testing, and maintenance of the refrigerating systems using ammonia refrigerant.

International Institute of Ammonia Refrigeration Standard IIAR-7 (2019 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the operating procedures for refrigerating systems using ammonia refrigerant.

International Institute of Ammonia Refrigeration Standard IIAR-8 (2020 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the requirements for the safe decommissioning of ammonia refrigeration systems.

International Institute of Ammonia Refrigeration Standard IIAR-9 (2020 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the safety requirements for existing ammonia refrigeration systems.

International Kitchen Exhaust Cleaning Association

International Kitchen Exhaust Cleaning Association Standard ANSI/IKECA C10 (2011 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the methodology for inspection of commercial kitchen exhaust systems and determining when they require cleaning.

National Fire Protection Association Standards

NFPA Standard 1 (2009 edition) has been deleted as a Referenced Standard.

NFPA Standard 2 (2016 edition) has been adopted as a new Referenced Standard. The code adopts this standard only with respect to the requirements for the generation, installation, storage and handling of hydrogen.

NFPA Standard 10 has been updated from the 2007 edition to the 2013 edition. The 2013 edition of this standard was revised to address Class D extinguishing agents and the phase-out of halon extinguishers.

NFPA Standard 11 has been updated from the 2005 edition to the 2010 edition. The 2010 edition of this standard includes new chapter to address compressed air foam systems to be used as fire extinguishing system.

NFPA Standard 12 has been updated from the 2008 edition to the 2011 edition. The 2011 edition of this standard was revised to modify the requirements for operational tests of carbon dioxide extinguishing systems.

NFPA Standard 12A has been updated from the 2004 edition to the 2009 edition. The 2009 edition of this standard includes revisions to address the testing and recharging of Halon 1301 cylinders of existing approved systems.

NFPA Standard 13 has been updated from the 2007 edition to the 2016 edition. The 2016 edition of this standard includes new sprinkler omission requirements for elevator machine rooms and other elevator associated spaces and new design criteria for the protection of exposed, expanded Group A plastics stored in racks.

NFPA Standard 13R has been updated from the 2007 edition to the 2016 edition. The 2016 edition of this standard revised definitions to correlate with NFPA 13 and NFPA 25.

NFPA Standard 15 (2017 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to additional fire extinguishing system protection requirements for stationary energy storage systems.

NFPA Standard 16 has been updated from the 2007 edition to the 2015 edition. The 2015 edition of this standard was revised to update several definitions for foam water system types, including foam-water sprinkler system, foam-water deluge system, foam-water dry pipe system, and foam-water preaction system.

NFPA Standard 17 has been updated from the 2002 edition to the 2013 edition. The 2013 edition of this standard was revised to clarify the requirements for inspection and maintenance of dry chemical fire extinguishing systems and also provides new requirements for installation acceptance.

NFPA Standard 17A has been updated from the 2002 edition to the 2013 edition. The 2013 edition of this standard was revised to clarify requirements for inspection and maintenance of wet chemical extinguishing systems and also provided new requirements for installation acceptance.

NFPA Standard 20 has been updated from the 2007 edition to the 2016 edition.

NFPA Standard 22 has been updated from the 2008 edition to the 2013 edition.

NFPA Standard 24 has been updated from the 2010 edition to the 2013 edition. The 2013 edition clarifies the requirements for running piping under buildings.

NFPA Standard 25 has been updated from the 2011 edition to the 2014 edition.

NFPA Standard 30 has been updated from the 2008 edition to the 2012 edition. The 2012 edition of this standard includes the technical changes for use and installation of alcohol-based hand rub dispensers and new provisions to require that Class II and Class III liquids that are stored, handled, processed, or used at temperatures at or above their flash points follow all applicable requirements in the code for Class I liquids.

NFPA Standard 30A has been updated from the 2008 edition to the 2015 edition. The 2015 edition includes revision of definitions for *combustible liquid* and *flammable liquid* to correlate with NFPA 30 and also provides new requirements for maintenance and repairs of fuel dispensing equipment, leak detection equipment, and secondary containment equipment.

NFPA Standard 30B has been updated from the 2007 edition to the 2015 edition. The 2015 edition includes the following major amendments:

- coverage of aerosol cooking spray products, including classification of such products and protection guidance for such products;
- marking of packages of aerosol products, to accommodate aerosol cooking spray products and plastic aerosol products; and
- new section to provide specific fire protection requirements for aerosol products in plastic containers.

NFPA Standard 32 has been updated from the 2007 edition to the 2016 edition. The 2016 edition has been reorganized and includes new and revised requirements:

- based on the class of solvent and the type of equipment used.
- addressing the solvents and equipment used in equipment replacing percholoethylene dry cleaning equipment.
- that prohibit the use of lower class solvents in existing equipment designed for higher solvent classes and require approval for any changes in solvent class.
- new requirements for solvents in the same solvent class to ensure that the new solvent is compatible with the equipment.

NFPA Standard 33 has been updated from the 2007 edition to the 2016 edition.

NFPA Standard 34 has been updated from the 2007 edition to the 2015 edition

NFPA Standard 35 has been updated from the 2005 edition to the 2011 edition.

NFPA Standard 40 has been updated from the 2007 to the 2011 edition.

NFPA Standard 45 has been updated from the 2004 edition to the 2015 edition. The 2015 edition includes a new chapter on educational and instructional laboratories. The 2015 edition contains requirements for storage and use in a laboratory work area of hazardous materials that could present an explosion hazard.

NFPA Standard 51 has been updated from the 2007 edition to the 2013 edition. The 2013 edition was reorganized to coordinate maximum allowable quantities (MAQs) and building controls as used in NFPA 55 and NFPA 400 (Hazardous Materials Code).

NFPA Standard 52 has been updated from the 2006 edition to the 2013 edition. The 2013 edition removes the requirements for hydrogen systems, which are now in NFPA 2 (Hydrogen Technologies Code).

NFPA Standard 55 has been updated from the 2010 edition to the 2013 edition. The 2013 edition has been revised to address bulk compressed and liquefied hydrogen systems and updates to separation distances to exposure from hydrogen systems.

NFPA Standard 56 (2012 edition) has been adopted as a new Referenced Standard. This standard sets forth training and notification requirements, and requires written procedures, in connection with cleaning and purging activities at construction sites.

NFPA Standard 58 has been updated from the 2008 edition to the 2014 edition. The 2014 edition includes new requirements to provide cathodic protection for underground metallic piping systems greater than 2 inch in diameter.

NFPA Standard 61 has been updated from the 2008 edition to the 2013 edition.

NFPA Standard 68 of 2018 has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design of explosion control by deflagration venting.

NFPA Standard 69 has been updated from the 2008 edition to the 2014 edition. The 2014 edition of this standard has been revised and updated to improve the overall clarity and use of the document for explosion prevention systems.

NFPA Standard 72 has been updated from the 2010 edition to the 2016 edition. The 2016 edition of the standard includes changes pertaining to wiring, pathway performance and the installation criteria. Level 2 and Level 3 pathway survivability requirements have been revised, providing flexibility of use and to address other “fire-resistive” methods.

NFPA Standard 80 has been updated from the 2007 edition to the 2013 edition. The 2013 edition includes the revisions relating to the inspection, testing, and maintenance of fire doors. Technical revisions were made to Chapter 5 to clarify its application to include all fire doors, fire shutters, and fire window assemblies.

NFPA Standard 85 has been updated from the 2007 edition to the 2015 edition. The 2015 edition includes new requirements for safe purging of fuel gas piping systems.

NFPA Standard 86 has been updated from the 2007 edition to the 2015 edition. The 2015 edition of this standard has been revised to address different fire safety concerns.

NFPA Standard 88A of 2019 has been adopted as a new Referenced Standard. The code adopts this standard with respect to fire safety requirements for automated parking garages.

NFPA Standard 96 of 2017 has been adopted as a new Referenced Standard. The code adopts this standard with respect to the use of solid fuel for flavor enhancement in commercial cooking.

NFPA Standard 99 has been updated from the 2005 edition to the 2015 edition. The 2015 edition has been revised to address hyperbaric facility fire safety requirements.

NFPA Standard 105 has been updated from the 2007 edition to the 2013 edition. The 2013 edition includes changes addressing the inspection and testing of smoke dampers and labeling of smoke damper access panels.

NFPA Standard 110 has been updated from the 2005 edition to the 2013 edition.

NFPA Standard 111 has been updated from the 2005 edition to the 2013 edition.

NFPA Standard 120 has been updated from the 2004 edition to the 2015 edition.

NFPA Standard 130 has been updated from the 2010 edition to the 2020 edition. The 2020 edition has new provisions relating to station and trainway construction configurations, emergency communications systems and emergency procedures.

NFPA Standard 140 (2018 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to fire safety at film production locations.

NFPA Standard 160 has been updated from the 2006 edition to the 2011 edition.

NFPA Standard 241 has been updated from the 2004 edition to the 2013 edition. The 2013 edition includes new provisions for exterior trash chutes, additional requirements for temporary heating equipment, requires a 2-hour fire watch following torch-applied roofing operations and updates references relating to underground air quality.

NFPA Standard 260 has been updated from the 2003 edition to the 2013 edition.

NFPA Standard 261 has been updated from the 2003 edition to the 2013 edition

NFPA Standard 289 has been updated from the 2009 edition to the 2013 edition.

NFPA Standard 303 has been updated from the 2006 edition to the 2011 edition. The 2011 edition includes new requirements for posting emergency contact information at marinas and boatyards; amended design requirements for automatic sprinkler protection for buildings with multilevel boat rack storage arrangements; and guidance for reducing electric shock hazards and use of corrosion-resistant materials in certain fixed extinguishing systems.

NFPA Standard 307 (2021 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of fire protection systems at marine terminals, piers and wharfs.

NFPA Standard 318 (2015 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to design, installation, operation and maintenance of the sub-atmospheric pressure gas systems (SAGS) in semiconductor fabrication facilities.

NFPA Standard 326 (2010 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the safety during hot work operation on the interior or exterior of tanks that contain or have contained flammable or combustible liquids.

NFPA Standard 385 (2012 edition) has been adopted as a new Referenced Standard for tank vehicles conducting fleet fueling operations.

NFPA Standard 400 (2013 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to requirements for the solid and liquid oxidizers. This standard replaces NFPA Standards 430 and 490.

NFPA Standard 407 has been updated from the 2007 edition to the 2012 edition.

NFPA Standard 430 has been deleted as a Referenced Standard. Its requirements have been consolidated into NFPA 400.

NFPA Standard 484 has been updated from the 2006 edition to the 2015 edition.

NFPA Standard 490 has been deleted as a Referenced Standard. Its requirements have been consolidated in NFPA 400.

NFPA Standard 495 has been updated from the 2006 edition to the 2013 edition. The 2013 edition has revised requirements relating to ground vibrations and air overpressure.

NFPA Standard 498 has been updated from the 2006 edition to the 2013 edition.

NFPA Standard 502 has been updated from the 2011 edition to the 2020 edition. The 2020 edition of this standard includes references to NFPA 72 for automatic fire detection systems and revised requirements for operations control centers in tunnels and bridges.

NFPA Standard 505 has been updated from the 2006 edition to the 2013 edition. The 2013 edition has additional requirements for hydrogen-powered fuel cell systems for powered industrial trucks and other mechanical handling equipment relating to their use in areas designated as hazardous locations.

NFPA Standard 652 (2016 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to dust containment and collection, hazard analysis, testing, ventilation, air flow, housekeeping and fire suppression in combustible dust producing facilities or locations.

NFPA Standard 654 has been updated from the 2006 edition to the 2013 edition. The 2013 edition includes revised methodology for determining whether a dust fire or explosion hazardous condition exists in a facility.

NFPA Standard 655 has been updated from the 2007 edition to the 2012 edition. The 2012 edition includes updates the requirements for combustible dust hazard assessment and control.

NFPA Standard 664 (2012 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to explosion protection standards in wood processing and woodworking facilities.

NFPA Standard 704 has been updated from the 2007 edition to the 2012 edition. The 2012 edition includes new guidance on the flammability hazard classification of aerosol products.

NFPA Standard 720 has been updated from the 2009 edition to the 2015 edition. The 2015 edition requires the use of more than one tone in audible carbon monoxide alarm signals; and conforms inspection and testing tables with the format used in NFPA 72l.

NFPA Standard 750 has been updated from the 2006 edition to the 2015 edition. The 2015 edition of this standard references NFPA 25 for inspection, testing, and other maintenance of water mist systems

NFPA Standard 855 (2020 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of stationary energy storage systems.

NFPA Standard 1122 has been updated from the 2008 edition to the 2013 edition.

NFPA Standard 1123 has been updated from the 2006 edition to the 2014 edition.

NFPA Standard 1124 has been updated from the 2006 edition to the 2017 edition. The 2017 edition includes the following major changes: removing Chapters 6 and 7 and other provisions relating to the distribution and retail sale of consumer fireworks as a result of Standards Council Decision #14-1, and relocating consumer fireworks storage requirements in manufacturing facilities to Chapter 5.

NFPA Standard 1125 has been updated from the 2007 edition to the 2012 edition.

NFPA Standard 1126 has been updated from the 2006 to the 2011 edition.

NFPA Standard 1127 has been updated from the 2008 edition to the 2013 edition.

NFPA Standard 2001 has been updated from the 2008 edition to the 2015 edition. The 2015 edition revises the requirements for recycling and disposal of clean agents and includes a sample system acceptance report.

NFPA 2010 has been updated from the 2010 edition to the 2015 edition. The 2015 edition of this standard revises the frequency of system inspections.

Underwriters Laboratories Standards

UL Standard 80 (2007 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of cooking oil tanks used in commercial cooking and in restaurants to store new and used cooking oils.

UL Standard 142 (2006 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of cooking oil tanks used in commercial cooking and in restaurants to store new and used cooking oils.

UL Standard 268 (2009 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of smoke detectors in fire protection systems.

UL Standard 300A (2006 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of fire extinguishing systems for domestic cooking appliances.

UL Standard 499 (2005 edition) has been adopted as a new Referenced Standard. The code adopts this standard to ensure electrical safety in the heating of cooking oil stored in commercial kitchens and restaurants.

UL Standard 864 (2003 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of fire alarm control units used in fire protection systems.

UL Standard 1564 (2015 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to battery chargers used to charge industrial storage batteries that power material handling trucks and other powered industrial trucks and equipment.

UL Standard 1741 (2010 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of inverters, converters, controllers and interconnection system equipment for use with stationary energy storage systems.

UL Standard 1973 (2018 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of stationary energy storage systems.

UL Standard 2017 (2008 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of general purpose signaling devices and units.

UL Standard 2075 (2013 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of control units and devices used in emergency alarm systems.

UL Standard 2200 (2012 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of stationary engine generator assemblies used for fire protection systems.

UL Standard 2208 has been updated from the 2005 edition to the 2010 edition.

UL Standard 2272 (2016 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of the storage battery and electrical components for certain powered mobility devices.

UL Standard 2335 has been updated from the 2001 edition to the 2010 edition.

UL Standard 2360 (2000 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the use of Class I or Class II listed tools used in semiconductor fabrication facilities

UL Standard 2849 (2020 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of electrical system components of e-bikes using a lithium-based, rechargeable battery.

UL Standard 9540 (2020 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the design, installation, operation and maintenance of stationary energy storage systems.

UL Standard 9540A (2019 edition) has been adopted as a new Referenced Standard. The code adopts this standard with respect to the testing of stationary energy storage systems to determine the fire and other hazards generated when the systems are caused to fail.

APPENDIX A
FEES

Various fees have been amended to conform to the revised terminology for permit fees set forth in FC105.6.

SECTION FC A01
CERTIFICATES

FC A01.1. Certificate fees. This section has been amended, as follows:

FC A01.1(3). Certificate of Fitness. This section has been amended to eliminate the references to "fire safety director" and "fire safety/EAP director," which have been superseded pursuant to FC401.5, and to reference instead the FC401.5 term “fire and life safety director"(FLS director). Fees for the FLS director Certificate of Fitness application, additional written examination and practical (on-site) examination for fire safety and non-fire emergency components have been added. All of these fees are existing fees that have been incorporated from Fire Department rule 3 RCNY 4601-01.

FC A01.1(16). ARC system testing company certificate. This section has been amended to add a fee for an ARC system testing company certificate. Such fee is an existing fee that has been incorporated from Fire Department rule 3 RCNY 4601-01.

FC A01.1(17). Fire alarm system installation, inspection, testing and servicing certificate. This section has been amended to add a fee for a fire alarm system installation, inspection, testing

and servicing certificate. Such fee is an existing fee that has been incorporated from Fire Department rule 3 RCNY 4601-01.

SECTION FC A02
TRAINING SCHOOLS

FC A02.1. Training school accreditation fees. This section has been reorganized and renumbered, as follows:

Consistent with the new terminology set forth in FC401.5, as amended by Local Law 148 of 2013, the fees for "fire safety director" and "fire safety/EAP director" training schools have been deleted and a fee added for an "FLS director and FEP coordinator" training school added.

The separate fee for building operation, maintenance and recordkeeping training schools has been deleted and consolidated under a new, uniform fee, set forth in FC A02.1(4) for "continuing education training schools, including training building operation, maintenance and recordkeeping training, and active shooter and medical emergency preparedness training. The fee for an active shooter and medical emergency preparedness training school is an existing fee incorporated from Fire Department rule 3 RCNY 4601-01.

The amounts of all fees affected by such reorganization and incorporation are unchanged from the former fees.

SECTION FC A03
PERMITS, INSPECTIONS AND PLAN EXAMINATIONS

FC A03.1. Permit, inspection and plan examination fees. This section has been reorganized and renumbered, as follows:

FC A03.1(2). Alcohol-based hand rubs. Consistent with the provisions of FC105.6 and 5705.5, as amended, a fee has been added for certain alcohol-based hand rubs. Such fee is consistent with the fee for storage, handling and use of flammable liquids generally.

FC A03.1(6). Automotive salvage and wrecking facilities. Consistent with the provisions of FC105.6 and 317, as amended, a fee for establishment and operation of an automotive salvage and wrecking facilities has been added.

FC A03.1(14). Combustible liquids. Consistent with new Fire Code Chapter 40, the fee for the manufacture or distillation of liquor, spirits or alcohol, and to store liquors, spirits or alcohol (which is currently not applicable to retail liquor stores and premises where alcohol is sold for consumption on the premises) has been deleted and added in a new section, FC A03.1(22).

FC A031.16. Commercial kitchens. This provision has been amended to conform to the revised terminology of the commercial kitchen permit, consistent of the provisions of FC105.6 (commercial kitchens), as amended. The amount of the fee is unchanged.

FC A03.1(17). Compressed gases. Consistent with the provisions of FC105.6 (hot work operations) and FC5307, as amended, respectively, fees to store, handle or use liquefied petroleum

gas (LPG) at a construction site and to store, handle and use carbon dioxide in low pressure carbon dioxide beverage dispensing systems have been added.

FC A03.1(22). Distilleries. Consistent with new Fire Code Chapter 40, permit fees to establish and operate a distillery, including manufacturing or distilling liquor, spirits or alcohol, and to store liquor, spirits, raw alcohol or other alcohol (except retail liquor stores and premises where alcohol is sold for consumption on the premises) has been added. These fees are similar to the fees for such hazardous materials formerly set forth in the combustible liquid and flammable liquid fee sections.

FC A03.1(25). Energy storage systems, stationary. Consistent with the provisions of FC608, as amended, a fee to install and operate a stationary energy storage system has been added.

FC A03.1(28). In-building auxiliary radio communication systems and other in-building radio communication systems. Consistent with the provisions of FC510, as amended, this section has been renamed and the fee for inspection and acceptance testing for in-building auxiliary radio communication systems and other in-building radio communication systems has been removed and incorporated into FC A03.1(58). With the removal of this additional fee, the fees for original and renewal applications have been consolidated into a single fee.

FC A03.1(31). Flammable liquids (excluding paint, varnish and lacquer). Consistent with the provisions of FC313, a fee for storage and use of gasoline in quantities exceeding 2½ gallons (9.5 L) in a single item of portable fuel equipment or an aggregate of 10 gallons (38 L) in all portable fueled equipment has been added. Consistent with the provisions of new Fire Code Chapter 40, the fee to store and handle liquors, spirits or alcohol, has been deleted and incorporated into FC A03.1(22).

FC A03.1(33). Fleet fueling. Consistent with the provisions of new FC5707, a fee for fleet fueling operations has been added.

FC A03.1(41). Hot work operations. Consistent with the provisions of FC105.6, as amended, fees for hot work with the use of flammable gas with or without oxygen and use of electric arc equipment at construction sites have been added; and a fee for public demonstration of hot work other than in an accredited educational institution or program has been added.

FC A03.1(42). Hydrogen fuel gas rooms. Consistent with the provisions of FC 105.6 and 5808, as amended, a permit fee to establish and operate a hydrogen fuel gas room for the generation, storage, handling and use of gaseous hydrogen has been added.

FC A03.1(52). Non-tobacco hookah establishments. Consistent with the provisions of FC310.7, a permit fee for non-tobacco hookah establishments has been added.

FC A03.1(58). Plan examinations. Fees for the examination of ARC System commissioning plans and five-year recertification plans, including acceptance testing, have been added.

Fees for the examination of fire protection plans, supplemental review of new technology applications and other applications requiring complex technical analyses, and late filing fees, have

been added. All such fees are existing fees that have been incorporated from Fire Department rule 3 RCNY 4601-01.

SECTION FC A04
ADMINISTRATIVE SERVICES

FC A04.1 Fees for administrative services. This section has been amended to add the following fees:

FC A04.1(9). Document management for fire alarm system, emergency alarm system, auxiliary radio communication system or fire extinguishing system application and for any other application not requiring a work permit from the Department of Buildings. A fee has been added for document management for fire alarm system, emergency alarm system, auxiliary radio communication system or fire extinguishing system applications and for any other application not requiring a work permit from the Department of Buildings. This is an existing fee that has been incorporated from Fire Department rule 3 RCNY 4601-01.

A04.1(10). Certification of corrected defects in fire alarm system installations. A fee has been added for certification of corrected defects in fire alarm system installations. This is an existing fee that has been incorporated from Fire Department rule 3 RCNY 4601-01.

A04.1(11). Project authorization. A project authorization fee, for original and renewal applications, has been added. This fee is being added consistent with FC105.4.4.4, as amended, which provides that when a pending application for approval of design and installation documents does not contain all information and documentation necessary to authorize performance of the work, the Department may approve such design and installation documents but make issuance of such project authorization contingent on subsequent submission of such information and documentation. Such project authorizations would be issued for a period of two years, and applications could be made to extend the time to complete an installation authorized under an existing project authorization once the two year limit has been expired.

APPENDIX B
REFERENCED STANDARD MODIFICATIONS

SECTION FC B01
National Fire Protection Association Referenced Standards

This section sets forth modifications to the NFPA standards adopted in Chapter 80.

The following NFPA Referenced Standard modifications have been amended to reference later editions of the standards, consistent with Fire Code Chapter 80, as amended (including section numbers of later editions):

- NFPA 11 Low-, Medium- and High-Expansion Foam
- NFPA 12 Carbon Dioxide Extinguishing Systems
- NFPA 13 Installation of Sprinkler Systems
- NFPA 13R Installation of Sprinkler Systems in Residential Occupancies up to and Including Four Stories in Height
- NFPA 16 Installation of Foam-Water Sprinkler and Foam-Water Spray Systems
- NFPA 17 Dry Chemical Extinguishing Systems
- NFPA 17A Wet Chemical Extinguishing Systems
- NFPA 45 Fire Protection for Laboratories Using Chemicals
- NFPA 72 National Fire Alarm and Signaling Code
- NFPA 110 Emergency and Standby Power Systems
- NFPA 130 Fixed Guideway Transit and Passenger Rail Systems
- NFPA 502 Road Tunnels, Bridges, and Other Limited Access Highways
- NFPA 750 Standard on Water Mist Fire Protection Systems
- NFPA 855 Standard for the Installation of Stationary Energy Storage Systems
- NFPA 2001 Clean Agent Fire Extinguishing Systems
- NFPA 2010 Fixed Aerosol Fire-Extinguishing Systems

ATTACHMENT B
TO MEMORANDUM IN SUPPORT

Fire Code Chapter Cross-Reference Table

The chapters of the Fire Code, as amended, have been renumbered to conform to the International Fire Code (IFC) format. As amended, Fire Code Chapters 1 through 10 will remain the same; all subsequent chapters have been renumbered.

Existing chapter numbers and new chapter numbers, as amended, are listed below.

Fire Code Chapter by Title	2014 Fire Code Chapter Number	New Fire Code Chapter Number
Administration	1	1
Definitions	2	2
General Precautions Against Fire	3	3
Emergency Planning and Preparedness	4	4
Fire Operations Features	5	5
Building Services and Systems	6	6
Fire Resistance Rated Construction	7	7
Interior Furnishings, Decorations, and Scenery	8	8
Fire Protection Systems	9	9
Means of Egress	10	10
Aviation Facilities and Operations	11	20
Dry Cleaning	12	21
Combustible Dust Producing Operations	13	22
Fire Safety During Construction, Alteration and Demolition	14	33
Flammable Finishes	15	24
Fruit and Crop Ripening	16	25
Fumigation and Insecticidal Fogging	17	26
Semiconductor Fabrication Facilities	18	27
Lumber Yards and Wood Waste Materials	19	28
Manufacture of Organic Coatings	20	29
Industrial Furnaces	21	30
Motor Fuel Dispensing Facilities and Repair Garages	22	23
High-piled Combustible Storage	23	32
Tents and Other Membrane Structures	24	31

Fire Code Chapter by Title	2014 Fire Code Chapter Number	New Fire Code Chapter Number
Tire Rebuilding and Tire Storage	25	34
Welding and Other Hot Work	26	35
Marinas	FC Section 319	36
Distilleries	N/A	40
Hazardous Materials – General Provisions	27	50
Aerosols	28	51
Combustible Fibers	29	37
Compressed Gases	30	53
Corrosive Materials	31	54
Cryogenic Fluids	32	55
Explosives, Fireworks and Special Effects	33	56
Flammable and Combustible Liquids	34	57
Flammable Gases	35	58
Flammable Solids	36	59
Highly Toxic and Toxic Materials	37	60
Liquefied Petroleum Gases	38	61
Organic Peroxides	39	62
Oxidizers, Oxidizing Gases and Oxidizing Cryogenic Fluids	40	63
Pyrophoric Materials	41	64
Pyroxylin Plastics	42	65
Unstable (Reactive) Materials	43	66
Water Reactive Solids and Liquids	44	67
Referenced Standards	45	80
Fees	Appendix A	Appendix A
Referenced Standard Modifications	Appendix B	Appendix B

Chapter numbers reserved to conform to the IFC are FC Chapters 11-19, 38-39, 41-49, 52, and 68-79.