NEW YORK CITY FIRE DEPARTMENT

AIA NYC CODE COMMITTEE

OVERVIEW OF NEW YORK CITY FIRE CODE

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NYC MODEL CODE INITIATIVE

- Mayor’s Advisory Commission on Model Codes
  - 2003 report recommended adoption, with NYC amendments, of model codes published by International Code Council, a national organization of state and municipal code officials from jurisdictions that have adopted the codes, including New York State (in 2003)

- Advantages of Model Codes
  - 3 year ICC code development process
  - Focus attention on new technology and safety concerns
  - Make New York City code requirements more transparent
NYC BUILDING CODE REVISION PROJECT

- New Construction Codes enacted by Local Law Nos. 33/2007 and 8/2008
- Effective July 1, 2008; grace period until July 1, 2009
- Extensive cross-references between Construction Codes and Fire Code
NYC FIRE CODE

VS

NYC BUILDING CODE

- Building Code (Title 28 of NYC Administrative Code)
  - Design and construction of buildings, including design requirements for structure, means of egress, and building fire safety systems (sprinkler systems, standpipe systems, fire alarm systems)

- Fire Code (Title 29 of NYC Administrative Code)
  - Operation and maintenance of buildings and fire safety systems
  - Emergency planning and preparedness (fire safety and evacuation plans and emergency action plans)
  - Regulation of hazardous materials, including design and installation of systems and equipment
  - Regulation of businesses and activities involving fire safety concerns (e.g. open flames and torch operations)
FDNY FIRE CODE
REVISION PROJECT

  - Technical Committee (FDNY personnel) review
  - Advisory Committee (outside stakeholder) review
  - Managing Committee oversight
  - FDNY Code Revision Unit/ Legal review
  - NYC Law Department review
  - Publication of Final Draft (December 2007)
  - Public Forum - December 20, 2007
  - City Council Intro and Committee hearings

- Enactment of New York City Fire Code
  - Local Law No. 26 of 2008 signed on June 3, 2008
  - Effective Date: July 1, 2008
  - FDNY rule repeal and repromulgation (ongoing)
APPROACH TO FIRE CODE REVISION

- Maintain existing jurisdiction between FDNY and Department of Buildings (DOB). Eliminate from Fire Code building design and construction provisions.

- Maintain current FDNY enforcement mechanisms and procedures (ECB Notice of Violation, Violation Order and Criminal Court Summons), as set forth in NYC Administrative Code Title 15.

- Adhere to IFC organization. Undertake to improve consistency of terminology.
APPROACH TO FIRE CODE REVISION (cont’d)

- Maintain standards at least as strict as Fire Prevention Code, unless lesser standard determined to be safe due to other requirements, improved technology or other considerations.

- Evaluate new requirements, balancing fire safety with burdens on property owners, businesses and other regulated entities.

- Generally, apply design and installation requirements prospectively (to new and substantially altered facilities) and operational and maintenance requirements retroactively (to both new and existing facilities).
The organization of the NYC Fire Code mirrors that of the IFC, which is organized by type of material, operation and/or facility.

- 45 Chapters
- 117 Referenced Standards (listed in Chapter 45)
- 2 Appendices (Fees and Referenced Standard Modifications)
NYC FIRE CODE

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NYC FIRE CODE
VS
FORMER CODE

- First comprehensive revision since Fire Prevention Code enacted almost 100 years ago.
- Not radical departure – more comprehensive and detailed
- Former Fire Prevention Code strict in many areas, but lagging behind national standards in others.
NYC FIRE CODE
vs
FORMER CODE (cont’d)

- Enhanced safety of general public
  - Expanded fire safety and evacuation plan requirements
  - Periodic testing and inspection for sprinkler, standpipe and fire alarm systems (NFPA standards)
  - Fire apparatus access roads
  - More comprehensive regulation of hazardous materials
  - More comprehensive regulation of special effects
  - Enforcement of industry standards
NYC FIRE CODE
vs
FORMER CODE (cont’d)

- Enhanced firefighter/emergency responder safety
  - Regulation of toxic materials that are not flammable or combustible
  - Rooftop access and obstructions
  - Construction site fire safety manager and pre-fire plan
NYC FIRE CODE

vs

FORMER CODE (cont’d)

- Lawfully existing facilities and conditions on effective date of Fire Code allowed to continue under prior applicable laws, rules and regulations, with certain exceptions (FC102.3 and R102-01)
- Design and installation document requirements listed in FC 105.4 for convenient reference, referenced in Building Code
- Operational and maintenance requirements applicable to new and existing facilities (new permits and certificates of fitness required by 7/1/09)
FIRE CODE TERMINOLOGY

- Complete listing of definitions in Chapter 2, with cross-references to individual chapters
- Design/installation/operation/maintenance
- Material/operation/facility
- Hazardous material/combustible material/combustible waste
- Manufacturing/storage/handling/use/transportation (sale/possession) of hazardous material
NYC FIRE CODE HIGHLIGHTS
(CHAPTERS 1 AND 3)

- Chapter 1 (Administration)
  - General maintenance provision (FC107) - maintenance recordkeeping requirement (on premises or other approved location for 3 years, unless otherwise provided)
  - Expeditor registration (FC116) (registered architects exempt)
  - Modifications (FC104.8)

- Chapter 3 (General Precautions Against Fire)
  - No Smoking at construction sites
NYC FIRE CODE HIGHLIGHTS (CHAPTER 4)

- Chapter 4 (Emergency Planning and Preparedness)
  - Fire safety and evacuation plans extended to assembly occupancies and mercantile occupancies
  - FSP Staff training (FC406)
  - Additional fire safety and evacuation plan content
  - Requirements for R-1 school and college dormitories
    - FSD requirement
    - Evacuation diagram on back of doors
**FC 503 Fire Apparatus Access Roads (FAAR)**

- Definitions
  - Frontage space – 30’ x 30’ area (from Building Code) accessible from a public street or FAAR – adjoining main front entrance
  - FAAR – private road from public street to frontage space of building
- 38’ wide FAAR with certain exceptions below
  - 34’ wide FAAR by right where ZR 26-21 authorizes narrower streets in exchange for additional off-street parking, or by modification in Special Natural Area zoning districts
  - 30’ wide FAAR by right in Special Hillside Preservation zoning districts
  - 30’ wide FAAR by right for 5 sprinklered dwelling units
NYC FIRE CODE HIGHLIGHTS
CHAPTER 5
FI RE OPERATIONS FEATURES (cont’d)

- Reduced FAAR width by modification for 1 or 2 family dwellings (Group R-3) set back from street (main front entrances to each dwelling unit 30-100 feet from street), if following criteria met:
  - Impractibility (required FAAR > 20% of the width of the property).
  - The driveway serving as FAAR only for single 1 or 2 family dwelling and no other non-accessory buildings.
  - The height of the 1 or 2 family dwelling is not >35 feet above the grade plane (BC502.1).
  - Dwelling has interconnected smoke alarms.
  - Unobstructed 5-foot access to the rear yard if the main front entrance to either of the dwellings is on side or rear of building (not directly accessible from the street or the driveway).
NYC FIRE CODE HIGHLIGHTS
CHAPTER 5
FIRE OPERATIONS FEATURES (cont’d)

- Reduced FAAR width by modification for 1 or 2 family dwellings (Group R-3) set back from streets (main front entrance to each dwelling 100-150 feet from street), if following criteria met:
  - All of the requirements set forth above for 30’-100’, except that, in lieu of a driveway, at least 20’ wide FAAR designed and constructed in compliance with FC503.1.1.
  - Dwelling is protected throughout by a sprinkler system.
  - 2 off-street spaces for a one-family dwelling (3 for a two-family dwelling) on the premises, separate from the FAAR.
  - No parking on FAAR and “No Parking” sign (FC503.7) at entrance to FAAR.
  - Unobstructed frontage space.
- Modification of FAAR width for 1 or 2 family dwellings (Group R-3) set back >150’ from street by special approval only.
- Turnarounds - Required for dead ends >150’ up to 400 feet, unless all new buildings sprinklered.
- “No Parking” signs required when parking is restricted - FDNY may develop restrictions for winding streets or where access problems
FC503.8.2  Sprinkler Requirements For Buildings on Public Streets of Substandard Width

- New buildings on public streets less than 38’ in width to be protected throughout by a sprinkler system

- Alterations to buildings on public streets less than 38’ in width to be protected throughout by a sprinkler system only when:
• The cost of alterations to the building (excluding 1 and 2 family dwellings) exceeds Building Code 60% standard.
• Any change in the “main use or dominant occupancy” of the building, as determined by DOB (except restoration of a building to original 1 or 2 family use).
• An increase of more than 125% in the square footage of the floor area of a building (excluding attic, basement and cellar space).
• An alteration that increase the height of a combustible (non-fireproof) building from 35’ or less above the grade plane, to more than 35’ above the grade plane.
A one-family dwelling altered to a two-family dwelling, except where:

- the alteration involves converting a basement or cellar space to a separate dwelling unit, and the new basement or cellar dwelling unit is protected throughout by a sprinkler system; or

- the alteration does not involve converting a basement or cellar space to a separate dwelling unit and at least two lawful accessory off-street parking spaces are provided on the premises.
FC504.4 Rooftop Access and Obstructions

- Buildings 100’ or less in height with flat roofs (20°)
- Roof access - 6’ wide openings for every 12 linear feet of accessible exposure
- Roof obstructions - clear path - 6’ wide and 9’ high
- Color coding of electric, natural gas, compressed gas and fuel oil piping (new and existing)
- Telecommunication transmitter markings - (new and existing)
NYC FIRE CODE HIGHLIGHTS
CHAPTER 6
BUILDING SERVICES AND SYSTEMS

- **FC604 Emergency Power Systems**
  - Adopts NFPA Standard 110 for emergency power system maintenance
  - Written schedule for maintenance of emergency power systems
  - Monthly test of transfer switches
  - Monthly test of emergency power systems and automatic transfer switches under load condition at operating temperature for 30 minutes

- **FC605.1 Abatement of electrical hazards**
  - Apply Electrical Code Table 210.21(B)(2)
    - 15 amp rated circuit - 12 amps maximum load
    - 20 amp rated circuit - 16 amps maximum load
Supervision

- Personal supervision by Certificate of Fitness holder during required inspection, testing or servicing of sprinkler, standpipe and fire alarm systems
- Building staff designated as impairment coordinator for out-of-service fire protection system
NYC FIRE CODE HIGHLIGHTS
CHAPTER 9
FIRE PROTECTION SYSTEMS

- Design and installation
  - FDNY Certificate of Approval required for non-water fire extinguishing systems, fire alarm control panels, fire dept connections (R112-01)
  - Removal of carbon dioxide fire extinguishing systems from normally occupied areas by 7/1/13

- Maintenance
  - Maintenance of sprinkler/standpipe systems (NFPA 25)
  - Fire pumps - Test weekly and flow test annually
  - Maintenance of fire alarm systems (NFPA 72)
  - Smoke control systems - written maintenance schedule
## CHAPTER 9 (cont’d)
**SPRINKLER SYSTEM PERIODIC INSPECTION AND TESTING REQUIREMENTS**
(Excerpt from NFPA 25 Table 5.1)

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gauges (dry, preaction, and deluge systems)</td>
<td>Inspect</td>
<td>Weekly/monthly</td>
</tr>
<tr>
<td>Control valves</td>
<td>Inspect</td>
<td>Weekly/monthly</td>
</tr>
<tr>
<td>Alarm devices</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Gauges (wet pipe systems)</td>
<td>Inspect</td>
<td>Monthly</td>
</tr>
<tr>
<td>Pipe and fittings</td>
<td>Inspect</td>
<td>Annually</td>
</tr>
<tr>
<td>Sprinklers</td>
<td>Inspect</td>
<td>Annually</td>
</tr>
<tr>
<td>Fire department connections</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Valves (all types)</td>
<td>Inspect</td>
<td>See NFPA 25 Table 12.1</td>
</tr>
<tr>
<td>Alarm devices</td>
<td>Test</td>
<td>Quarterly/semiannually</td>
</tr>
<tr>
<td>Main drain</td>
<td>Test</td>
<td>Annually</td>
</tr>
<tr>
<td>Gauges</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Sprinklers</td>
<td>Test</td>
<td>50 years, and every 10 years thereafter</td>
</tr>
</tbody>
</table>
### CHAPTER 9 (cont’d)

**STANDPIPE SYSTEM PERIODIC INSPECTION AND TESTING REQUIREMENTS**

(Excerpt from NFPA 25 Table 6.1)

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control valves</td>
<td>Inspect</td>
<td>Weekly/monthly</td>
</tr>
<tr>
<td>Pressure regulating devices</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Piping</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Hose connections</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Cabinet</td>
<td>Inspect</td>
<td>Annually</td>
</tr>
<tr>
<td>Hose</td>
<td>Inspect</td>
<td>Annually</td>
</tr>
<tr>
<td>Hose storage device</td>
<td>Inspect</td>
<td>Annually</td>
</tr>
<tr>
<td>Alarm device</td>
<td>Test</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Hose nozzle</td>
<td>Test</td>
<td>Annually</td>
</tr>
<tr>
<td>Hose storage device</td>
<td>Test</td>
<td>Annually</td>
</tr>
<tr>
<td>Hose</td>
<td>Test</td>
<td>5 years/3 years</td>
</tr>
<tr>
<td>Pressure control valve</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Pressure reducing valve</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Hydrostatic test</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Flow test</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Main drain test</td>
<td>Test</td>
<td>Annually</td>
</tr>
</tbody>
</table>
### CHAPTER 9 (cont’d)
### WATER STORAGE TANK PERIODIC INSPECTION AND TESTING REQUIREMENTS
(Excerpt from NFPA 25 Table 9.1.1)

<table>
<thead>
<tr>
<th>Component</th>
<th>Requirement</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition of water in tank</td>
<td>Inspect</td>
<td>Monthly/quarterly</td>
</tr>
<tr>
<td>Water temperature</td>
<td>Inspect</td>
<td>Daily/weekly</td>
</tr>
<tr>
<td>Heating system</td>
<td>Inspect</td>
<td>Daily/weekly</td>
</tr>
<tr>
<td>Control valves</td>
<td>Inspect</td>
<td>Weekly/monthly</td>
</tr>
<tr>
<td>Water —— level</td>
<td>Inspect</td>
<td>Monthly/quarterly</td>
</tr>
<tr>
<td>Air pressure</td>
<td>Inspect</td>
<td>Monthly/quarterly</td>
</tr>
<tr>
<td>Tank —— exterior</td>
<td>Inspect</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Interior</td>
<td>Inspect</td>
<td>5 years/ 3 years</td>
</tr>
<tr>
<td>Check valves</td>
<td>Inspect</td>
<td>5 years</td>
</tr>
<tr>
<td>Temperature alarms</td>
<td>Test</td>
<td>Monthly</td>
</tr>
<tr>
<td>High temperature limit switches</td>
<td>Test</td>
<td>Monthly</td>
</tr>
<tr>
<td>Water level alarms</td>
<td>Test</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Level indicators</td>
<td>Test</td>
<td>5 years</td>
</tr>
<tr>
<td>Pressure gauges</td>
<td>Test</td>
<td>5 years</td>
</tr>
</tbody>
</table>

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### CHAPTER 9 (cont’d)

**FIRE ALARM SYSTEM PERIODIC VISUAL INSPECTION REQUIREMENTS**

*(Excerpt from NFPA 72 Table 10.3.1)*

<table>
<thead>
<tr>
<th>Component</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control equipment, including fuses, lamps, LEDs, and power supply</td>
<td>Weekly, or annually if alarm, supervisory and trouble signals are monitored by a central station</td>
</tr>
<tr>
<td>Batteries</td>
<td>Monthly/semiannually</td>
</tr>
<tr>
<td>Emergency voice alarm communications equipment</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Remote annunciators</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Alarm notification appliance</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Supervisory signal and airflow initiating devices</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Other initiating devices (e.g. duct detectors, fire alarm boxes and smoke detectors)</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Interface equipment</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Central station transmitters</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Component</td>
<td>Frequency</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------</td>
<td>------------------------------------------------</td>
</tr>
<tr>
<td>Control equipment, including fuses, lamps, LEDs, interface equipment and power supply</td>
<td>Quarterly, or annually if alarm, supervisory and trouble signals are monitored by a central station</td>
</tr>
<tr>
<td>Engine-driven emergency generator</td>
<td>Monthly</td>
</tr>
<tr>
<td>Batteries</td>
<td>Monthly</td>
</tr>
<tr>
<td>Emergency voice/alarm communications equipment</td>
<td>Annually</td>
</tr>
<tr>
<td>Remote annunciators</td>
<td>Annually</td>
</tr>
<tr>
<td>Supervisory signal devices</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Water flow devices and valve tamper switches</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Other initiating devices (e.g. electromechanical releasing devices and fire alarm boxes)</td>
<td>Annually.</td>
</tr>
<tr>
<td>Conventional smoke detector smoke entry test</td>
<td>Annually</td>
</tr>
<tr>
<td>Smoke detector sensitivity</td>
<td>See NFPA 72 Section 10.4.3.2. (Generally, at least 2 detectors on each initiating circuit every 2 years)</td>
</tr>
<tr>
<td>Supervisory signal devices</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Waterflow devices and valve tamper switches</td>
<td>Semiannually</td>
</tr>
<tr>
<td>Alarm notification appliances, including audible and visual devices</td>
<td>Annually</td>
</tr>
<tr>
<td>Central station transmitters</td>
<td>Annually</td>
</tr>
</tbody>
</table>
NYC FIRE CODE HIGHLIGHTS
(CHAPTERS 10, 26 AND 27)

- Chapter 10 (Means of Egress)
  - Maintenance required, including door hardware, security devices, removal of snow and ice, and prevention of overcrowding

- Chapter 26 (Welding and Other Hot Work)
  - Hot work responsible person
  - Hot work program authorization
  - Pre-hot work check list

- Chapter 27 (Hazardous Materials)
  - Fire Department liaison for storage, handling and use of hazardous materials during emergency response
FDNY RULE PROMULGATION
(TITLE 3 OF RULES OF CITY OF NEW YORK)

- All rules to be repealed and repromulgated – 95% complete
- New numbering parallels FC organization
- Rules of interest
  - Existing facilities and installations (R102-01)
  - Appeal procedures (R104-01)
  - Non-sequential floor numbering (R408-01)
FDNY WEBSITE

- Internet Address:
  - www.nyc.gov/fdny
  - Quick links to “Fire Code” and “FDNY Rules”

- Complete text of Fire Code and new FDNY Rules

- Frequently Asked Questions
  - Official interpretations of Fire Code and rules
  - Interim guidelines

- Fire Code public inquiry form