**Chapter 10 General Safety Requirements**

10.1 Fundamental Requirements

10.1.1

Every new and existing building or structure shall be constructed, arranged, equipped, maintained, and operated in accordance with this Code so as to provide a reasonable level of life safety, property protection, and public welfare from the actual and potential hazards created by fire, explosion, and other hazardous conditions.

10.1.2\* Life Safety Code

Every new building shall comply with this Code and NFPA 101, Life Safety Code.

10.1.4 Structural Hazards

10.1.4.1

Where structural elements have visible damage, the AHJ shall be permitted to require a technical analysis prepared in accordance with Section 1.15 to determine if repairs are necessary to restore structural integrity.

10.1.4.2

Where the technical analysis recommends repairs to the structure, such repairs shall be made.

10.1.5

Any person who deliberately, or through negligence, sets fire to or causes the burning of any combustible material in such a manner as to endanger the safety of any person or property shall be deemed to be in violation of this Code.

10.1.6

The AHJ shall have the authority to prohibit any or all open flames or other sources of ignition where circumstances make such conditions hazardous.

10.1.7 Listed and Labeled

Listed and labeled equipment, devices, and materials shall be installed and used in accordance with the listing limitations and the manufacturers' instructions.

10.2 Owner/Occupant Responsibilities

10.2.1

The owner, operator, or occupant shall be responsible for compliance with this Code.

10.2.2

The owner, operator, or occupant of a building shall notify the AHJ prior to a change of occupancy as specified in 4.5.7 and 10.3.4.

10.2.3

The AHJ shall be permitted to require the owner, operator, or occupant to provide tests or test reports, without expense to the AHJ, as proof of compliance with the intent of this Code.

10.2.4

The owner, operator, or occupant of a building that is deemed unsafe by the AHJ shall abate, through corrective action approved by the AHJ, the condition causing the building to be unsafe either by repair, rehabilitation, demolition, or other corrective action approved by the AHJ.

10.2.5

The owner, operator, or occupant, or any person in control of a building or premises shall keep records of all maintenance, inspections, and testing of fire protection systems, fire alarm systems, smoke control systems, emergency evacuation and relocation drills, emergency action plans, emergency power, elevators, and other equipment as required by the AHJ.

10.2.6

All records required to be kept shall be maintained until their useful life has been served, as required by law, or as required by the AHJ.

10.2.7 Minimum Fire Prevention Inspection Frequencies for Existing Occupancies

10.2.7.1

Fire prevention inspections shall occur on existing premises in accordance with the minimum inspection frequency schedule specified in Table 10.2.7.1.

[1730: Table 6.7]

Table 10.2.7.1 Minimum Inspection Frequency

Occupancy Risk Classification

Frequency

High Annually

Moderate Biennially

Low Triennially

Critical infrastructure Per AHJ

10.2.7.2

Where required or permitted by the AHJ, the required fire prevention inspection shall be conducted by an approved party that is qualified in accordance with NFPA 1031.

10.2.7.3

The AHJ shall be permitted to approve alternative qualifications for the approved party specified in 10.2.7.2.

10.2.7.4

The provisions of 10.2.7 shall not apply to detached one- and two-family dwellings or townhomes.

10.3 Occupancy

10.3.1

No new construction or existing building shall be occupied in whole or in part in violation of the provisions of this Code or the certificate of occupancy issued under the building code.

10.3.2

Existing buildings that are occupied at the time of adoption of this Code shall be permitted to remain in use provided that the following conditions are met:

The use and occupancy classification has been approved and is unchanged from the time of the approval.

No condition deemed hazardous to life or property exists that would constitute an imminent danger.

10.3.3\*

Buildings or portions of buildings, except for routine maintenance or repair, shall not be occupied during construction, repair, or alteration without the approval of the AHJ if required means of egress are impaired or required fire protection systems are out of service.

10.3.4 Change of Use or Occupancy Classification

10.3.4.1

In any building or structure, whether or not a physical alteration is needed, a change from one use or occupancy classification to another shall comply with 4.6.7 of NFPA 101. [101:4.6.11]

10.3.4.2

Occupancy classifications and subclassifications, as defined, shall be in accordance with Chapter 6.

10.4 Building Evacuation

10.4.1

Persons shall not fail to leave a building when notified to do so or when directed by the AHJ as a result of a known or perceived emergency.

10.4.2\*

Persons shall not fail to leave any overcrowded premises when ordered to do so by the AHJ.

10.4.3\*

Persons shall not fail to leave a building when a fire alarm system is activated or when required by a fire drill, unless otherwise provided for in an approved building fire evacuation plan or during routine system testing or maintenance.

10.4.4

For non-fire incidents, persons shall not fail to comply with actions required by an emergency action plan when a mass notification or other emergency notification signal is activated.

10.5\* Fire Drills

10.5.1 Where Required

Emergency egress and relocation drills conforming to the provisions of this Code shall be conducted as specified by the provisions of Chapter 20 of this Code or Chapters 11 through 42 of NFPA 101, or by appropriate action of the AHJ. Drills shall be designed in cooperation with the local authorities. [101:4.7.1]

10.5.2\* Drill Frequency

Emergency egress and relocation drills, where required by Chapter 20 of this Code or Chapters 11 through 43 of NFPA 101 or the AHJ, shall be held with sufficient frequency to familiarize occupants with the drill procedure and to establish conduct of the drill as a matter of routine. Drills shall include suitable procedures to ensure that all persons subject to the drill participate. [101:4.7.2]

10.5.3 Orderly Evacuation

When conducting drills, emphasis shall be placed on orderly evacuation rather than on speed. [101:4.7.3]

10.5.4\* Simulated Conditions

Drills shall be held at expected and unexpected times and under varying conditions to simulate the unusual conditions that can occur in an actual emergency. [101:4.7.4]

10.5.5 Relocation Area

Drill participants shall relocate to a predetermined location and remain at such location until a recall or dismissal signal is given. [101:4.7.5]

10.5.6\*

A written record of each drill shall be completed by the person responsible for conducting the drill and maintained in an approved manner. [101:4.7.6]

10.6 Reporting of Fires and Other Emergencies

10.6.1 Fire Reporting

10.6.1.1

The person discovering any unwanted fire, regardless of magnitude, shall immediately notify the fire department.

10.6.1.2

Facilities that have established on-premises firefighting organizations and have coordinated and arranged procedures approved by the AHJ shall not need to notify the fire department.

10.6.1.3\*

The owner, manager, occupant, or any person in control of such building or premises, upon discovery of an unwanted fire or evidence of a previous unwanted fire that had apparently been extinguished, shall immediately notify the fire department.

10.6.1.4

Persons shall not make, issue, post, or maintain any regulation or order, written or verbal, that would require any person to take any unnecessary delaying action prior to reporting a fire to the fire department.

10.6.2

Persons shall not deliberately or maliciously turn in an alarm of fire when in fact that person knows that no fire exists.

10.6.3

Notification of unauthorized discharge of hazardous materials shall be in accordance with Chapter 60.

10.6.4

Any person who willfully makes any false, fraudulent, misleading, or unfounded report or statement or willfully misrepresents any fact with the intention of misleading any fire department personnel or who interferes with the operation of the fire department shall be in violation of this Code.

10.7 Tampering With Fire Safety Equipment

10.7.1

Persons shall not render any portable or fixed fire-extinguishing system or device or any fire-warning system or device inoperative or inaccessible.

10.7.1.1

As necessary during emergencies, maintenance, drills, prescribed testing, alterations, or renovations, portable or fixed fire-extinguishing systems or devices or any fire-warning system or device shall be permitted to be made inoperative or inaccessible.

10.7.2

Persons shall not render a fire protection system or device inoperative during an emergency unless by direction of the incident commander.

10.7.3

Persons, except a person authorized by the AHJ, shall not remove, unlock, destroy, or tamper with in any manner any locked gate, door, or barricade; chain; enclosure; sign; tag; or seal that has been required by the AHJ pursuant to this Code.

10.8 Emergency Action Plans

Diagram

UpCodes Diagrams

P

Emergency Action Plan Req. (NFPA)

10.8.1 Where Required

Emergency action plans shall be provided for high-rise, health care, ambulatory health care, residential board and care, assembly, day-care centers, special amusement buildings, hotels and dormitories, detention and correctional occupancies, educational, underground and windowless structures, facilities storing or handling materials covered by Chapter 60, or where required by the AHJ.

Upcodes Diagrams

10.8.2 Plan Requirements

10.8.2.1\*

Emergency action plans shall include the following:

Procedures for reporting of emergencies

Occupant and staff response to emergencies

\* Evacuation, relocation and shelter-in-place procedures appropriate to the building, its occupancy, emergencies, and hazards

Appropriateness of the use of elevators

Design and conduct of fire drills

Type and coverage of building fire protection systems

Other items required by the AHJ

[101:4.8.2.1]

10.8.2.2

Emergency action plans shall be submitted to the AHJ for review when required by the AHJ.

10.8.2.3\*

Emergency action plans shall be reviewed and updated as required by the AHJ. [101:4.8.2.3]

10.9 Smoking

10.9.1

Where smoking is considered a fire hazard, the AHJ shall be authorized to order the owner in writing to post "No Smoking" signs in conspicuous, designated locations where smoking is prohibited.

10.9.2

In areas where smoking is permitted, noncombustible ashtrays shall be provided.

10.9.3

Removal or destruction of any required "No Smoking" sign shall be prohibited.

10.9.4

Smoking or depositing any lighted or smoldering substance in a place where required "No Smoking" signs are posted shall be prohibited.

10.10 Open Flames, Candles, Open Fires, and Incinerators

10.10.1 Permits

Permits, where required, shall comply with Section 1.12.

10.10.1.1

Permits shall not be required for cooking and recreational fires.

10.10.1.2

Where burning is conducted on public property or the property of someone other than the permit applicant, the permit applicant shall demonstrate that permission has been obtained by the appropriate government agency, the owner, or the owner's authorized agent.

10.10.1.3

When limits for atmospheric conditions or hours restrict burning, such limits shall be designated in the permit restrictions.

10.10.1.4

Instructions or stipulations of permit shall be followed.

10.10.2\*

The AHJ shall have the authority to prohibit any or all open flames, use of fireworks, candles, and open, recreational, and cooking fires or other sources of ignition, or establish special regulations on the use of any form of fire or smoking material where circumstances make such conditions hazardous.

10.10.3 Outdoor Fires

10.10.3.1\*

Outdoor fires shall not be built, ignited, or maintained in or upon hazardous fire areas, except by permit from the AHJ.

10.10.3.2

Permanent barbecues, portable barbecues, outdoor fireplaces, or grills shall not be used for the disposal of rubbish, trash, or combustible waste material.

10.10.4 Open Fires

10.10.4.1

Permitted open fires shall be located not less than 50 ft (15 m) from any structure.

10.10.4.2\*

It shall be unlawful to set fires to any brush or forest-covered land during anytime when a burning ban, as declared by the State Fire Marshal, is in effect.

10.10.4.3

Recreational fires shall not be located within 25 ft (7.6 m) of a structure or combustible material unless contained in an approved manner.

10.10.4.4

Conditions that could cause a fire to spread to within 25 ft (7.6 m) of a structure shall be eliminated prior to ignition.

10.10.5 Fire Attendant

10.10.5.1

Open, recreational, and cooking fires shall be constantly attended by a competent person until such fire is extinguished.

10.10.5.2

This person shall have a garden hose connected to the water supply or other fire-extinguishing equipment readily available for use.

10.10.6 Cooking Equipment

10.10.6.1

For other than one- and two-family dwellings, no hibachi, grill, or other similar devices used for cooking, heating, or any other purpose shall be used or kindled on any balcony, under any overhanging portion, or within 10 ft (3 m) of any structure.

10.10.6.2

For other than one-and two-family dwellings, no hibachi, grill, or other similar devices used for cooking shall be stored on a balcony.

10.10.6.3\*

Listed equipment permanently installed in accordance with its listing, applicable codes, and manufacturer's instructions shall be permitted.

10.10.7 Installation of Patio Heaters

The installation of patio heaters shall comply with 69.3.13.

10.10.8 Incinerators and Fireplaces

10.10.8.1

Incinerators, outdoor fireplaces, permanent barbecues, and grills shall not be built, installed, or maintained without prior approval of the AHJ.

10.10.8.2

Incinerators, outdoor fireplaces, permanent barbecues, and grills shall be maintained in good repair and in a safe condition at all times.

10.10.8.3

Openings in incinerators, outdoor fireplaces, permanent barbecues, and grills shall be provided with an approved spark arrester, screen, or door.

10.10.9 Open-Flame Devices

10.10.9.1\*

Welding torches, tar pots, decorative torches, and other devices, machines, or processes liable to start or cause fire shall not be operated or used in or upon any areas, except by permit from the AHJ.

10.10.9.2

Flame-employing devices, such as lanterns or kerosene road flares, and fuses shall not be operated or used as a signal or marker in or upon any areas unless at the scene of emergencies or railroad operations. (See Chapter 16 and Chapter 65 for additional guidance.)

10.10.9.3

The use of unmanned, free-floating sky lanterns and similar devices utilizing an open flame shall be prohibited.

10.10.10\* Discontinuance

The AHJ shall be authorized to require any fire to be immediately discontinued if the fire or smoke generated by such fire is determined to constitute a hazardous condition.

10.11 Fire Protection Markings

10.11.1\* Premises Identification

10.11.1.1\*

New and existing buildings shall have approved address numbers placed in a position to be plainly legible and visible from the street or road fronting the property.

10.11.1.2

Address numbers shall be a minimum of 4 in. (100 mm) high with a minimum stroke width of 1/2 in. (13 mm).

10.11.1.3\*

Telecommunications equipment utilized to communicate address data to E911 communication centers shall be programmed and maintained to accurately convey such address information to the E911 communication center.

10.11.1.4

The assignment of addresses to buildings shall be in accordance with a method approved by the AHJ.

10.11.1.5

Addresses shall not be changed unless approved by that AHJ.

10.11.1.6

Address numbers for suites within a multiple tenant building or complex shall be individually identified in a manner approved by the AHJ.

10.11.1.7

Address numbers shall contrast with their background.

10.11.1.8

Address numbers shall be arabic numerals or alphabet letters.

10.11.2 Shaftways to Be Marked for Fire Fighter Safety

10.11.2.1

Every outside opening accessible to the fire department that opens directly on any hoistway or shaftway communicating between two or more floors in a building shall be plainly marked with a sign in accordance with 10.11.2.2 and 10.11.2.3.

10.11.2.2

Shaftway signs shall be in red letters at least 6 in. (152 mm) high on a white background stating "SHAFTWAY."

10.11.2.3

Such warning signs shall be placed so as to be readily discernible from the outside of the building.

10.11.3\* Stairway Identification

10.11.3.1

New enclosed stairs serving three or more stories and existing enclosed stairs other than those addressed in 10.11.3.1,16, serving five or more stories shall comply with 10.11.3.1.1 through 10.11.3.1.15. [101:7.2.2.5.4.1]

10.11.3.1.1

The stairs shall be provided with special signage within the enclosure at each floor landing. [101:7.2.2.5.4.1(A)]

10.11.3.1.2

The signage shall indicate the floor level. [101:7.2.2.5.4.1(B)]

10.11.3.1.3

The signage shall indicate the terminus of the top and bottom of the stair enclosure. [101:7.2.2.5.4.1(C)]

10.11.3.1.4

The signage shall indicate the identification of the stair enclosure. [101:7.2.2.5.4.1(D)]

10.11.3.1.5

The signage shall indicate the floor level of, and the direction to, exit discharge. [101:7.2.2.5.4.1(E)]

10.11.3.1.6

The signage shall be located inside the stair enclosure. [101:7.2.2.5.4.1(F)]

10.11.3.1.7

The bottom of the signage shall be located a minimum of 48 in. (1220 mm) above the floor landing, and the top of the signage shall be located a maximum of 84 in. (2135 mm) above the floor landing. [101:7.2.2.5.4.1(G)]

10.11.3.1.8

The signage shall be in a position that is visible from within the stair enclosure when the door is in the open or closed position. [101:7.2.2.5.4.1(H)]

10.11.3.1.9

The signage shall comply with 14.14.8.1 and 14.14.8.2. [101:7.2.2.5.4.1(I)]

10.11.3.1.10

The floor level designation shall also be tactile in accordance with ICC A117.1, Accessible and Usable Buildings and Facilities. [101:7.2.2.5.4.1(J)]

10.11.3.1.11

The signage shall be painted or stenciled on the wall or on a separate sign securely attached to the wall. [101:7.2.2.5.4.1(K)]

10.11.3.1.12

The stairway identification shall be located at the top of the sign in minimum 1 in. (25 mm) high lettering and shall be in accordance with 14.14.8.2. [101:7.2.2.5.4.1(L)]

10.11.3.1.13\*

Signage that reads NO ROOF ACCESS shall designate stairways that do not provide roof access. Lettering shall be a minimum of 1 in. (25 mm) high and shall be in accordance with 14.14.8.2. [101:7.2.2.5.4.1(M)]

10.11.3.1.14

The floor level number shall be located below the stairway identifier in minimum 5 in. (125 mm) high numbers and shall be in accordance with 14.14.8.2. Mezzanine levels shall have the letter "M" or other appropriate identification letter preceding the floor number, while basement levels shall have the letter "B" or other appropriate identification letter preceding the floor level number. [101:7.2.2.5.4.1(N)]

10.11.3.1.15

Identification of the lower and upper terminus of the stairway shall be on the sign in minimum 1 in. (25 mm) high letters or numbers and shall be in accordance with 14.14.8.2. [101:7.2.2.5.4.1(O)]

10.11.3.1.16

Previously approved existing signage shall not be required to comply with 10.11.3.1.12 through 10.11.3.1.15. [101:7.2.2.5.4.1(P)]

10.11.3.2

Wherever an enclosed stair requires travel in an upward direction to reach the level of exit discharge, special signs with directional indicators showing the direction to the level of exit discharge shall be provided at each floor level landing from which upward direction of travel is required, unless otherwise provided in 10.11.3.2.1 and 10.11.3.2.2, and both of the following also shall apply:

Such signage shall comply with 14.14.8.1 and 14.14.8.2.

Such signage shall be visible when the door leaf is in the open or closed position.

[101:7.2.2.5.4.2]

10.11.3.2.1

The requirement of 10.11.3.2 shall not apply where signs required by 10.11.3.1.1 are provided. [101:7.2.2.5.4.2(A)]

10.11.3.2.2

The requirement of 10.11.3.2 shall not apply to stairs extending not more than one story below the level of exit discharge where the exit discharge is clearly obvious. [101:7.2.2.5.4.2(B)]

10.11.3.3\* Stairway Tread Marking

Where new contrasting marking is applied to stairs, such marking shall comply with all of the following:

The marking shall include a continuous strip as a coating on, or as a material integral with, the full width of the leading edge of each tread.

The marking shall include a continuous strip as a coating on, or as a material integral with, the full width of the leading edge of each landing nosing.

The marking strip width, measured horizontally from the leading vertical edge of the nosing, shall be consistent at all nosings.

The marking strip width shall be 1 in. to 2 in. (25 mm to 51 mm).

[101:7.2.2.5.4.3]

10.11.3.4\*

Where new contrast marking is provided for stairway handrails, it shall be applied to, or be part of, at least the upper surface of the handrail; have a minimum width of 1/2 in. (13 mm); and extend the full length of each handrail. After marking, the handrail shall comply with 7.2.2.4.5 of NFPA 101. Where handrails or handrail extensions bend or turn corners, the stripe shall be permitted to have a gap of not more than 4 in. (100 mm). [101:7.2.2.5.4.4]

10.11.3.5

These signs shall be maintained in an approved manner.

10.11.3.6

Existing approved signs shall be permitted.

10.12 Seasonal and Vacant Buildings and Premises

10.12.1

Every person owning or having charge or control of any vacant building, premises, or portion thereof shall remove all combustible storage, waste, refuse, and vegetation and shall lock, barricade, or otherwise secure the building or premises to prohibit entry by unauthorized persons.

10.12.1.1

The requirement of 10.12.1 shall not apply to buildings used on a seasonal basis, or the temporary vacancy of a building for tenant change or remodeling purposes.

10.12.2

All fire protection systems shall be maintained in service in seasonal and vacant buildings, unless otherwise approved by the AHJ.

10.12.2.1\*

With the approval of the AHJ, fire protection and fire alarm systems in seasonal and vacant buildings shall be permitted to be removed from service.

10.12.2.2

When required by the AHJ, other systems or components pertaining to fire protection shall be maintained.

10.12.3

The AHJ shall have the authority to require an inspection and test of any fire protection system or fire alarm system that has been out of service for 30 days or more before restored back into service.

10.13 Combustible Vegetation

10.13.1 Interior Vegetation

Interior vegetation shall comply with 12.6.9.

10.13.2 Exterior Vegetation

10.13.2.1

Cut or uncut weeds, grass, vines, and other vegetation shall be removed when determined by the AHJ to be a fire hazard.

10.13.2.2

When the AHJ determines that total removal of growth is impractical due to size or environmental factors, approved fuel breaks shall be established.

10.13.2.3

Designated areas shall be cleared of combustible vegetation to establish the fuel breaks.

10.14 Special Outdoor Events, Carnivals, and Fairs

10.14.1 Permits

Permits, where required, shall comply with Section 1.12.

10.14.2

The AHJ shall be permitted to regulate all outdoor events such as carnivals and fairs as it pertains to access for emergency vehicles; access to fire protection equipment; placement of stands, concession booths, and exhibits; and the control of hazardous conditions dangerous to life and property.

10.14.3 Life Safety Evaluation

The AHJ shall be permitted to order a life safety evaluation in accordance with this subsection.

10.14.3.1\* General

Where a life safety evaluation is required by other provisions of the Code, it shall comply with all of the following:

The life safety evaluation shall be performed by persons acceptable to the AHJ.

The life safety evaluation shall include a written assessment of safety measures for conditions listed in 10.14.3.2 and of the building systems and facility management in accordance with 10.14.3.3.

The life safety evaluation shall be approved annually and shall be updated for special or unusual conditions in accordance with the provisions of 13.4.2 of NFPA 101 for existing assembly occupancies.

[101:12.4.2.1]

10.14.3.2 Conditions to Be Assessed

Life safety evaluations shall include an assessment of all of the following conditions and related appropriate safety measures:

Nature of the events and the participants and attendees

Access and egress movement, including crowd density problems

Medical emergencies

Fire hazards

Permanent and temporary structural systems

Severe weather conditions

Earthquakes

Civil or other disturbances

Hazardous materials incidents within and near the facility

Relationships among facility management, event participants, emergency response agencies, and others having a role in the events accommodated in the facility

[101:12.4.2.2]

10.14.3.3\* Building Systems and Facility Management Assessments

Life safety evaluations shall include assessments of both building systems and facility management upon which reliance is placed for the safety of facility occupants, and such assessments shall consider scenarios appropriate to the facility. [101:12.4.2.3]

10.14.3.3.1 Building Systems

Prior to issuance of the building permit, the design team shall provide the AHJ with building systems documentation in accordance with 10.14.3.4. [101:12.4.2.3.1]

10.14.3.3.2 Facility Management

Prior to issuance of the certificate of occupancy, the facility management shall provide the AHJ with facility management documentation in accordance with 10.14.3.5. [101:12.4.2.3.2]

10.14.3.3.3 Life Safety Evaluation

10.14.3.3.3.1

Prior to issuance of the building permit, the persons performing the life safety evaluation shall confirm that the building systems provide safety measures. [101:12.4.2.3.3.1]

10.14.3.3.3.2

Prior to issuance of the certificate of occupancy, the owner shall confirm that the facility management and operational plans provide appropriate safety measures. [101:12.4.2.3.3.2]

10.14.3.3.3.3

The life safety evaluation shall be performed by persons acceptable to the AHJ. [101:12.4.2.3.3.3]

10.14.3.4 Life Safety Building Systems Document

The AHJ shall be provided with a life safety building systems document providing the information required in 10.14.3.4.2 through 10.14.3.4.4. [101:12.4.2.4]

10.14.3.4.1 Document Distribution

The persons performing the life safety evaluation, the AHJ, the A/E design team, and the building owner shall receive a copy of the life safety building systems document prior to issuance of the building permit. [101:12.4.2.4.1]

10.14.3.4.2 Life Safety Narrative

A life safety narrative shall be provided describing the following, as applicable:

Building occupancy, construction type, and intended uses and events

Building area and population capacity of the proposed facility

Principal fire and life safety features/strategies for the building, including the following, as applicable:

Egress

Access control

Fire barriers, smoke barriers, and smoke partitions

Fire suppression systems

Smoke control/protection

Fire detection and alarm

PA system

Emergency elevator operation

Emergency power and lighting

Provisions for patrons with disabilities

Fire department access

Fire/emergency command center

Exterior construction design parameters used/applied

[101:12.4.2.4.2]

10.14.3.4.3 Life Safety Floor Plans

Life safety floor plans of each level shall be provided, as applicable, with the following:

Occupant load, exit location, egress capacity, main entrance/exit, horizontal exits, travel distance and exit discharge

Fire barriers, smoke barriers, and smoke partitions

Areas of smoke-protected assembly occupancy

Separate smoke-protected areas or zones

Areas of other occupancy type and separations

Unprotected vertical openings

Event plans for each anticipated type of event depicting the following:

Seating configuration

Exhibit booth layout

Stage location

Occupant load, egress capacity required, exits provided and travel distance

Any floor or stage use restrictions

Plan and/or section drawing indicating where sprinkler protection is omitted

Areas of refuge — interior and exterior

[101:12.4.2.4.3]

10.14.3.4.4 Engineering Analysis and Calculations

Where active or passive smoke control is used, an engineering analysis shall be provided and shall include the following:

Smoke protection analysis to substitute the use of smoke-protected assembly seating as follows:

Performance-based design methods approved by the AHJ

Smoke control air requirements per NFPA 92

Smoke control assumptions, such as fire scenario description, fire size quantification, and smoke development/smoke movement analysis

Proposed testing protocol for smoke control system and pass/fail criteria

Timed egress analysis assumed flow rates and travel speeds

Sprinkler protection calculations, including an engineering analysis substantiating locations in accordance with 13.3.2.6.3 where sprinkler protection would be ineffective due to height and combustible loading

Load diagram of rigging/load capacity of gridiron, fly loft, or long-span roof structure used for hanging overhead objects

[101:12.4.2.4.4]

10.14.3.5 Life Safety Management Document

The AHJ shall be provided with a life safety management document providing the information required in 10.14.3.5.2 through 10.14.3.5.7. [101:12.4.2.5]

10.14.3.5.1 Document Distribution

The persons performing the life safety evaluation, the AHJ, the A/E design team and the building owner shall receive a copy of the life safety management document prior to issuance of the certificate of occupancy. [101:12.4.2.5.1]

10.14.3.5.2 Facility Management and Operational Plans

Facility management and operational plans shall address the following, as applicable:

Best practices adopted or recognized

Emergency plans

Evacuation plans

Shelter-in-place plans, including capacities and protection considerations

Crowd management training plan

Safety plans, which include the following:

Training plans

Safety equipment plans

Fire alarm, smoke control system protocol, and testing plans

First aid or medical treatment plans, which include the following:

Defined levels of service

Standing orders adopted

Supply and equipment plan

Housekeeping plans — biological, medical, hazardous materials cleaning

Emergency communication plans, which include the following:

Chain of authority and incident command system employed

Contact information for the following:

Venue personnel

Emergency management and response organizations (such as fire, police, medical, utility, transportation, and key stakeholders)

Communication systems

Standard announcement for incidents or emergency situations

Risk and threat assessment for venue and surrounding area for the following:

Severe weather

Hazardous materials

Terrorism

Hostile intruder

Operating procedures and protocols for risks, such as the following:

Severe weather preparedness and monitoring plans

Hazardous materials incidence response plans

Terrorism response plans

Hostile intruder response plans

First responder response/arrival routes plans

Alcohol management plans

Food safety plans

Rigging and temporary performance structure, which includes the following:

Design and safety review plans

Emergency action plans

Chemical and hazardous materials information and data

Barrier and wall protection plans for motor sports or similar events

[101:12.4.2.5.2]

10.14.3.5.3 Records

Records of the facility management plans, including procedures and location, shall be maintained, for the following:

Crowd management training

Safety training

Fire alarm, smoke control system maintenance, and test records

First aid or medical treatment and regulation compliance

[101:12.4.2.5.3]

10.14.3.5.4 Building Systems Reference Guide

A building systems reference guide shall be provided in accordance with 10.14.3.5.4.1 through 10.14.3.5.4.3. [101:12.4.2.5.4]

10.14.3.5.4.1

A basic life safety building systems reference guide shall be developed and maintained. [101:12.4.2.5.4.1]

10.14.3.5.4.2

The life safety building systems reference guide shall contain the important and key information for the venue management's use when planning events/activities for the safety of patrons, performers/participants, employees and vendors. [101:12.4.2.5.4.2]

10.14.3.5.4.3

The life safety building systems document in accordance with 10.14.3.4 shall be permitted to be used, and additionally the life safety building systems reference guide shall include the following, as applicable:

Occupant capacity of every space/room

Egress flow diagrams, including assumed flow rates, and capacities of all aisles and hallways, including public and nonpublic areas

Capacities of all exterior doors and/or choke points in immediate perimeter areas

Limitations or assumptions for ingress control that could be in place during an emergency egress/evacuation, including control gates, queuing barriers, and turnstiles

Capacities of immediate perimeter exterior walkways, including assumed flow rates for exterior areas

Assumed egress paths for normal conditions — transportation modes

Management-level sequencing charts for alarm and emergency communication systems, the manual, or override options/instructions that include the following:

List of codes or alarm signals

Location of manual overrides

Description of sequence of operations during an alarm, such as exhaust fans operate or doors open

Principal fire and life safety features/strategies, such as sprinklers, smoke control, fire alarm notifications, PA system, emergency power, and fire department access

Assumptions when developing occupancy plans for venue floor, open areas, and nonevent spaces, such as the following:

Event floor plans/setup diagrams for each typical event/activity

Fire sprinkler and smoke protection capabilities

Severe weather shelter areas, locations, structure considerations (limitations), capacities (occupancy and density factor)

Command center, which includes the following:

Location (formal or informal)

Structural integrity considerations

Redundant locations and/or capabilities

Jurisdictional rights — assumed and/or applied

Locations and capacities of wheelchair and mobility-impaired seating

Locations and capacities of areas of refuge and other safe areas

Rigging or structural load capacities of grids, truss structure, fly lofts, ceilings, floors, ramps, and staging

List of locations of emergency equipment such as fire extinguishers, fire hose cabinets, fire hydrants, and AEDs.

Sequencing of electrical service, such as the following:

Emergency generators and charts of all areas illuminated during power outages

Multiple electrical feed capabilities

List of mechanical, movable equipment in the facility

Potential hazards in the surrounding neighborhood, including train tracks and propane stations

Assumptions or accommodations considered and used in design

[101:12.4.2.5.4.3]

10.14.3.5.5

The facility management plans shall be maintained and adjusted as necessary for changes to the venue structure, operating purposes and style, and event occupancy. [101:12.4.2.5.5]

10.14.3.5.6

Facility management and operational plans shall be submitted to the AHJ annually. [101:12.4.2.5.6]

10.14.3.5.7

For events and activities at the venue that are outside the normal operating conditions or vary from the normal facility management plans, the following shall apply:

Facility management shall perform an event/activity-specific facility management plan for the AHJ to review.

Approval of the AHJ for the specific facility management plan shall occur prior to such event.

[101:12.4.2.5.7]

10.14.4 Standby Fire Personnel

Where required by the AHJ, standby fire personnel shall be provided and comply with 1.7.17.

10.14.5 Portable Fire Extinguishers

A minimum of one portable fire extinguisher shall be provided for each concession stand where required by the AHJ in accordance with Section 13.6.

10.14.6 Smoke Alarms

A minimum of one single station smoke alarm shall be located in all stock or equipment trailers when they are used for sleeping purposes.

10.14.7 Carbon Monoxide Alarm

A minimum of one single station carbon monoxide alarm shall be located in all stock or equipment trailers when they are used for sleeping purposes and contain fuel-fired appliances.

10.14.8 Electrical Equipment

Electrical equipment and installations shall comply with Section 11.1.

10.14.9 Cooking

Concession stands utilized for cooking shall have a minimum of 10 ft (3 m) of clearance on two sides and shall not be located within 10 ft (3 m) of amusement rides or devices.

10.14.10 Communications

Where required by the AHJ, a method of notifying the fire department in the event of an emergency shall be provided.

10.14.10.1

Methods of notifying the fire department shall consist of a telephone, an alarm system connected to the fire department or other approved agency, or other approved means.

10.14.10.2

Methods of notifying the fire department shall be readily available to the public.

10.14.11 Internal Combustion Power Sources

10.14.11.1 Fueling

Fuel tanks shall be of adequate capacity to permit uninterrupted operation during normal operating hours.

10.14.11.2 Refueling

Refueling shall be conducted only when not in use.

10.14.11.3 Protection

Internal combustion power sources shall be isolated from contact with the public by either physical guards, fencing, or an enclosure.

10.14.11.4 Fire Extinguishers

A minimum of one portable fire extinguisher with a rating of not less than 2-A:10-B:C shall be provided.

10.14.12 Crop Maze

10.14.12.1 Permits

Permits, where required, shall comply with Section 1.12.

10.14.12.2 General

10.14.12.2.1

The owner or operator of a crop maze amusement attraction shall advise all employees of the fire and life safety regulations established in this subsection prior to the employees assuming their respective duties.

10.14.12.2.2

The owner or operator of a crop maze or their employees shall provide safety instructions to the visitors and patrons of a crop maze prior to their entrance to the maze.

10.14.12.2.3 Employee Monitor

10.14.12.2.3.1

A minimum of two employees shall be on duty to monitor a crop maze during hours of operation.

10.14.12.2.3.2

A minimum of one of the employees shall be located on an elevated platform a minimum of 10 ft (3 m) above the maze.

10.14.12.2.4

The owner or operator of a crop maze shall contact the local fire department and provide the fire department with the opportunity to prepare a pre-plan of the crop maze amusement attraction prior to the start of seasonal operations.

10.14.12.2.5

Motorized vehicles shall not be parked within 75 ft (23 m) of a crop maze.

10.14.12.2.6

A fuel break of a minimum of 20 ft (6 m) wide shall be cleared between a crop maze and any vehicles or vegetation outside the maze.

10.14.12.2.7 Public Address System

10.14.12.2.7.1

A public address system shall be readily available to employees at a crop maze to assist them in making announcements to the visitors or patrons of a crop maze in the event of an emergency.

10.14.12.2.7.2

A bull horn or loud speaker shall suffice as a public address system.

10.14.12.2.8

The entrance and exit from a crop maze shall not be blocked or obstructed at any time the maze is open for business and occupied by the public.

10.14.12.2.9

No more than 200 persons per acre, including adults and children, shall occupy the crop maze at any one time.

10.14.12.3 Prohibited

10.14.12.3.1\*

No open flame-producing devices or equipment shall be permitted within the confines of the crop maze.

10.14.12.3.2

No smoking shall be permitted within the confines of the crop maze.

10.14.12.4 Fireworks

10.14.12.4.1

Fireworks shall not be discharged within a minimum of 300 ft (91 m) of any crop maze at any time.

10.14.12.4.2

The use of display fireworks shall comply with the Delaware State Fire Prevention Regulations in addition to the requirements of 10.14.12.4.

10.15 Portable and Vehicle-Mounted Generators

10.15.1 Scope

10.15.1.1

Portable and vehicle-mounted generators shall comply with Section 10.15.

10.15.1.2

Section 10.15 shall not apply to portable and vehicle-mounted generators used solely for mobile and temporary cooking operations. (See Section 50.8.).

10.15.1.3

Section 10.15 shall not apply to stationary generators. (See Section 11.7.)

10.15.2

Portable generators manufactured after January 1, 2021, other than vehicle-mounted generators, shall be listed and labeled in accordance with the carbon monoxide mitigation requirements in UL 2201, Carbon Monoxide Emission Rate of Portable Generators.

10.15.3

Portable and vehicle-mounted generators shall be operated and maintained in accordance with the manufacturer's instructions.

10.15.4

Portable and vehicle-mounted generators shall not be refueled while operating.

10.15.5 Operation of Portable and Vehicle-Mounted Generators

10.15.5.1\*

Portable and vehicle-mounted generators shall only be operated or refueled outdoors a minimum of 20 ft (6.1 m) from any building openings, including windows, doors, and air intakes.

10.15.5.2\*

Portable and vehicle-mounted generators shall not be operated within buildings or enclosed areas, except as permitted in 10.15.5.

10.15.6

Portable and vehicle-mounted generators shall be permitted to be operated and refueled in a building or room that has been constructed for such use in accordance with the building code.

10.15.7

Portable and vehicle-mounted generators shall be positioned so the exhaust is directed away from openings in buildings, tents, and membrane structures.

10.15.8\*

Portable and vehicle-mounted generators shall be grounded in accordance with NFPA 70.

10.15.9

Extension cords and temporary wiring used to connect portable and vehicle-mounted generators shall comply with Chapter 11 and shall be provided with GFCI protection.

10.15.10

Connections to a premise wiring system shall comply with all of the following:

\* Connection to a premise served by commercial power shall be made through a listed transfer switch installed, used, and maintained in accordance with NFPA 70.

Connections to buildings not served by utility power shall comply with NFPA 70.

10.16\* Outside Storage

10.16.1

Outside storage of combustible materials shall not be located within 10 ft (3 m) of a property line.

10.16.2

The separation distance shall be allowed to be reduced to 3 ft (0.9 m) for storage not exceeding 6 ft (1.8 m) in height.

10.16.3

The separation distance shall be allowed to be reduced where the AHJ determines that no hazard to the adjoining property exists.

10.16.4

Combustible material shall not be stored beneath a building or structure unless specifically constructed or protected for this purpose.

10.16.5

Combustible storage in the open shall not exceed 20 ft (6.1 m) in height.

10.17 Parade Floats

10.17.1 Permits

Permits, where required, shall comply with Section 1.12.

10.17.2 Fire Protection

Motorized parade floats and towing apparatus shall be provided with a minimum 2-A:10-B:C-rated portable fire extinguisher readily accessible to the operator.

10.18 Powered Industrial Trucks

Powered industrial trucks shall be operated and maintained in accordance with NFPA 505.

10.19\* Storage of Combustible Materials

10.19.1 General

Storage of combustible materials shall be orderly.

10.19.2 Permits

Permits, where required, shall comply with Section 1.12.

10.19.3 Ceiling Clearance

10.19.3.1

Storage shall be maintained 2 ft (0.61 m) or more from the ceiling in nonsprinklered areas of buildings.

10.19.3.2

The clearance between the deflector and the top of storage shall be 18 in. (450 mm) or greater. [13:10.2.8.1]

10.19.3.3

The 18 in. (450 mm) dimension shall not limit the height of shelving on a wall or shelving against a wall in accordance with 10.2.8, 10.3.7, 11.2.6, and Sections 11.3 and 12.1 of NFPA 13. [13:9.5.6.6]

10.19.3.3.1

Where shelving is installed on a wall and is not directly below sprinklers, the shelves, including storage thereon, shall be permitted to extend above the level of a plane located 18 in. (450 mm) below ceiling sprinkler deflectors. [13:9.5.6.6.1]

10.19.3.3.2

Shelving, and any storage thereon, directly below the sprinklers shall not extend above a plane located 18 in. (450 mm) below the ceiling sprinkler deflectors. [13:9.5.6.6.2]

10.19.3.4

Where other standards specify greater clearance to storage minimums, they shall be followed. [13:10.2.8.2]

10.19.4 Means of Egress

Combustible material shall not be stored in exits.

10.19.5 Equipment Rooms

10.19.5.1

Combustible material shall not be stored in boiler rooms, mechanical rooms, or electrical equipment rooms.

10.19.5.2

Materials and supplies for the operation and maintenance of the equipment in the room shall be permitted.

10.19.6 Attic, Under-Floor, and Concealed Spaces

Attic, under-floor, and concealed spaces used for storage of combustible materials shall comply with the protection from hazards requirements for storage rooms in NFPA 101.

10.19.7 Fueled Equipment

Fueled equipment, including but not limited to motorcycles, mopeds, lawn-care equipment, and portable cooking equipment, shall not be stored, operated, or repaired within a building except under one of the following conditions:

The building or room has been constructed for such use in accordance with the building code.

The use is allowed by other provisions of this Code.

10.20 Indoor Play Structures

10.20.1

Play structures installed indoors and exceeding 10 ft (3.1 m) in height or 160 ft2 (14.9 m2) in area shall comply with the specifications in 10.20.1.1 through 10.20.1.5.

10.20.1.1

Indoor play structures shall be constructed of noncombustible materials or of combustible materials that comply with the following:

Wood shall be fire-retardant-treated wood.

Light-transmitting plastics shall comply with the requirements in 10.20.1.2.

Foam plastics (including the pipe foam used in soft-contained play equipment structures) shall have a maximum heat-release rate not greater than 100 kW when tested in accordance with UL 1975, Fire Tests for Foamed Plastics Used for Decorative Purposes, or NFPA 289 using the 20 kW ignition source.

Aluminum composite material (ACM) shall meet the requirements of Class A interior finish in accordance with Chapter 10 of NFPA 101 when tested as an assembly in the maximum thickness intended for use.

Textiles and films shall comply with the flame propagation performance criteria contained in Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

Plastic materials used to construct rigid components of soft-contained play equipment structures (such as tubes, windows, panels, junction boxes, pipes, slides, and decks) shall exhibit a peak rate of heat release not exceeding 400 kW/m2 when tested in accordance with ASTM E1354, Standard Test Method for Heat and Visible Smoke Release Rates for Materials and Products Using an Oxygen Consumption Calorimeter, at an incident heat flux of 0.24 in. (6 mm) 50 kW/m2 in the horizontal orientation at a thickness of 0.24 in. (6 mm).

The balls used in ball pools, in soft-contained play equipment structures, shall comply with all of the following:

The balls shall have a maximum heat release rate not greater than 100 kW when tested in accordance with UL 1975 or NFPA 289 using the 20 kW ignition source.

The minimum specimen test size for balls shall be 36 in. x 36 in. (0.91 m x 0.91 m) by an average of 21 in. (0.56 m) deep.

The balls shall be held in a box constructed of galvanized steel poultry netting wire mesh.

Foam plastics shall be covered by fabric, coating, or film meeting the flame propagation performance criteria contained in Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

The floor covering within the play structure shall exhibit a Class I interior floor finish classification, as described in Chapter 10 of NFPA 101, when tested in accordance with NFPA 253 or with ASTM E648, Standard Test Method for Critical Radiant Flux of Floor-Covering Systems Using a Radiant Heat Energy Source.

10.20.1.2\*

Light-transmitting plastics used for indoor play structures shall meet all of the following criteria:

They shall have a self-ignition temperature of 650°F (343°C) or greater when tested in accordance with ASTM D1929, Standard Test Method for Determining Ignition Temperature of Plastics.

They shall have a smoke developed index not greater than 450 when tested in the manner intended for use in accordance with ASTM E84, Standard Test Method for Surface Burning Characteristics of Building Materials, or UL 723, Test for Surface Burning Characteristics of Building Materials, or not greater than 75 when tested in the thickness intended for use in accordance with ASTM D2843, Standard Test Method for Density of Smoke from the Burning or Decomposition of Plastics.

They shall meet the criteria of one of the following classifications:

CC1 — Plastic materials that have a burn length of 1 in. (25 mm) or less and flame extinguishment when tested at a nominal thickness of 0.060 in. (1.5 mm), or in the thickness intended for use, in accordance with D635, Test Method for Rate of Burning and/or Extent and Time of Burning of Plastics in a Horizontal Position

CC2 — Plastic materials that have a burning rate of 21/2 in./min (64 mm/min) or less when tested at a nominal thickness of 0.060 in. (1.5 mm), or at a thickness intended for use, in accordance with ASTM D635

10.20.1.3

Where interior finish materials are added to an individual indoor play structure exceeding 300 ft2 (28 m2) in area, the interior finish material shall comply with the applicable occupancy chapter in NFPA 101.

10.20.1.4

Indoor play structures shall have a minimum horizontal separation from other structures of 20 ft (6.1 m).

10.20.1.5\*

Indoor play structures complying with the requirements of 10.20.1.1 and 10.20.1.2 shall not exceed 600 ft2 (56 m2) in area, unless a fire hazards analysis is approved by the AHJ.

