



Tentative Interim Amendment

## NFPA 5000<sup>®</sup>

### Building Construction and Safety Code<sup>®</sup>

2015 Edition

**Reference:** 16.4.1 and A.16.4.1

**TIA 15-1**

(SC 14-8-34 / TIA Log #1131)

**Note:** Text of the TIA issued and incorporated into the text of the document, therefore no separate publication is necessary.

*1. Revise 16.4.1, from what was done by Second Revision SR-173 (Annual 2014 revision cycle – NFPA 5000 Second Draft), to read as follows:*

#### **16.4.1 Life Safety Evaluation.**

**16.4.1.1\* General.** Where a life safety evaluation is required by other provisions of this *Code*, it shall comply with all of the following:

- (1) The life safety evaluation shall be performed by persons acceptable to the AHJ.
- (2) The life safety evaluation shall include a written assessment of safety measures for conditions listed in 16.4.1.2 and of the building systems and facility management in accordance with 16.4.1.3.
- (3) The life safety evaluation shall be approved annually by the AHJ and shall be updated for special or unusual conditions.

**16.4.1.2 Conditions to Be Assessed.** Life safety evaluations shall include an assessment of all of the following conditions and the related appropriate safety measures:

- (1) Nature of the events and the participants and attendees
- (2) Access and egress movement, including crowd density problems
- (3) Medical emergencies
- (4) Fire hazards
- (5) Permanent and temporary structural systems
- (6) Severe weather conditions
- (7) Earthquakes
- (8) Civil or other disturbances
- (9) Hazardous materials incidents within and near the facility
- (10) Relationships among facility management, event participants, emergency response agencies, and others having a role in the events accommodated in the facility

**16.4.1.3\* 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.

**16.4.1.3.1 Building Systems.** Prior to issuance of the building permit, the design team shall provide the AHJ with building systems documentation in accordance with 16.4.1.4.

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**16.4.1.3.2 Facility Management.** Prior to issuance of the certificate of occupancy, the facility management shall provide the AHJ with facility management documentation in accordance with 16.4.1.5.

**16.4.1.3.3 Life Safety Evaluation.**

**16.4.1.3.3.1** Prior to issuance of the building permit, the persons performing the life safety evaluation shall confirm that the building systems provide appropriate safety measures.

**16.4.1.3.3.2** Prior to issuance of the certificate of occupancy, the persons performing the life safety evaluation shall confirm that the facility management and operational plans provide appropriate safety measures.

**16.4.1.3.3.3** The AHJ shall approve the acceptable persons performing the life safety evaluation in a timely manner to enable the design team and facility management to resolve concerns to the satisfaction of the persons performing the life safety evaluation prior to their submission.

**16.4.1.4 Life Safety Building Systems Document.** The AHJ shall be provided with a life safety building systems document providing the information required in 16.4.1.4.2 through 16.4.1.4.4.

**16.4.1.4.1 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.

**16.4.1.4.2 Life Safety Narrative.** A life safety narrative shall be provided describing the following:

- (1) Building occupancy, construction type, and intended uses and events
- (2) Building area and population capacity of the proposed facility
- (3) Principal fire and life safety features/strategies for the building, including—as applicable—the following:
  - (a) Egress
  - (b) Access control
  - (c) Fire barriers, smoke barriers, and smoke partitions
  - (d) Fire suppression systems
  - (e) Smoke control/protection
  - (f) Fire detection and alarm
  - (g) PA system
  - (h) Emergency elevator operation
  - (i) Emergency power and lighting
  - (j) Provisions for patrons with disabilities
  - (k) Fire department access
  - (l) Fire/Emergency command center
- (4) Exterior construction design parameters used/applied

**16.4.1.4.3 Life Safety Floor Plans.** Life safety floor plans of each level shall be provided—as applicable—with the following:

- (1) Occupant load, exit location, egress capacity, main entrance/exit, horizontal exits, travel distance, and exit discharge
- (2) Fire barriers, smoke barriers, and smoke partitions
- (3) Areas of smoke-protected assembly occupancy
- (4) Separate smoke-protected areas or zones
- (5) Areas of other occupancy type and separations
- (6) Unprotected vertical openings
- (7) Event plans for each anticipated type of event depicting the following:
  - (a) Seating configuration
  - (b) Exhibit booth layout
  - (c) Stage location
  - (d) Occupant load, egress capacity required, exits provided, and travel distance
  - (e) Any floor or stage use restrictions
  - (f) Plan and/or section drawing indicating areas where the roof construction is more than 50 ft (15 m) above floor level and areas where sprinkler protection is omitted
  - (g) Areas of refuge — interior and exterior

**16.4.1.4.4 Engineering Analysis and Calculations.** An engineering analysis shall be provided with the following:

- (1) Smoke protection analysis to substantiate the use of smoke-protected assembly seating as follows:
  - (a) Performance-based design methods approved by the AHJ
  - (b) Smoke control requirements per NFPA 92, *Standard for Smoke Control Systems*
  - (c) Smoke control assumptions, such as fire scenario description, fire size quantification, and smoke development/smoke movement analysis
  - (d) Proposed testing protocol for smoke control system and pass/fail criteria
  - (e) Timed egress analysis and assumed flow rates and travel speeds

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- (2) Sprinkler protection calculations, including an engineering analysis substantiating locations in accordance with 16.3.5.3 where sprinkler protection would be ineffective due to height and combustible loading
- (3) Load diagram of rigging/load capacity of gridiron, fly loft, or long-span roof structure used for hanging overhead objects

**16.4.1.5 Life Safety Management Document.** The AHJ shall be provided with a life safety management document providing the information required in 16.4.1.5.2 through 16.4.1.5.7.

**16.4.1.5.1 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.

**16.4.1.5.2 Facility Management and Operational Plans.** Facility management and operational plans shall address the following:

- (1) Best practices adopted or recognized
- (2) Emergency plans
- (3) Evacuation plans
- (4) Shelter-in-place plans, including capacities and protection considerations
- (5) Crowd management training plan
- (6) Safety plans, which include the following:
  - (a) Training plans
  - (b) Safety equipment plans
- (7) Fire alarm, smoke control system protocol, and testing plans
- (8) First aid or medical treatment plans, which include the following:
  - (a) Defined levels of service
  - (b) Standing orders adopted
  - (c) Supply and equipment plan
- (9) Housekeeping plans — biological, medical, hazardous materials cleaning
- (10) Emergency communication plans, which include the following:
  - (a) Chain of authority and incident command system employed
  - (b) Contact information for the following:
    - i. Venue personnel
    - ii. Emergency management and response organizations, such as fire, police, medical, utility, transportation, and key stakeholders
  - (c) Communication systems
  - (d) Standard announcement for incidents or emergency situations
- (11) Risk and threat assessment for venue and surrounding area for the following:
  - (a) Severe weather
  - (b) Hazardous materials
  - (c) Terrorism
  - (d) Hostile intruder
- (12) Operating procedures and protocols for risks, such as the following:
  - (a) Severe weather preparedness and monitoring plans
  - (b) Hazardous materials incidence response plans
  - (c) Terrorism response plans
  - (d) Hostile intruder response plans
- (13) First responder response/arrival routes plans
- (14) Alcohol management plans
- (15) Food safety plans
- (16) Rigging and temporary performance structure, which includes the following:
  - (a) Design and safety review plans
  - (b) Emergency action plans
- (17) Chemical and hazardous materials information and data
- (18) Barrier and wall protection plans for motor sports or similar events

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

- (1) Crowd management training
- (2) Safety training
- (3) Fire alarm, smoke control system maintenance, and test records
- (4) First aid or medical treatment and regulation compliance

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**16.4.1.5.4 Building Systems Reference Guide.** A building systems reference guide shall be provided in accordance with 16.4.1.5.4.1 through 16.4.1.5.4.3.

**16.4.1.5.4.1** A basic life safety building systems reference guide shall be developed and maintained.

**16.4.1.5.4.2** 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.

**16.4.1.5.4.3** The life safety building systems document in accordance with 16.4.1.4 shall be permitted to be used, and additionally the life safety building systems reference guide shall include the following:

- (1) Occupant capacity of every space/room
- (2) Egress flow diagrams, including assumed flow rates, and capacities of all aisles and hallways, including public and nonpublic areas
- (3) Capacities of all exterior doors and/or choke points in immediate perimeter areas
- (4) Limitations or assumptions for ingress control that could be in place during an emergency egress/evacuation, including control gates, queuing barriers, and turnstiles
- (5) Capacities of immediate perimeter exterior walkways, including assumed flow rates for exterior areas
- (6) Assumed egress paths for normal conditions — transportation modes
- (7) Management level sequencing charts for alarm and emergency communication systems, the manual, or override options/instructions that include the following:
  - (a) List of codes or alarm signals
  - (b) Location of manual overrides
  - (c) Description of sequence of operations during an alarm such as exhaust fans operate or doors open
- (8) Principal fire and life safety features/strategies, such as sprinklers, smoke control, fire alarm notifications, PA system, emergency power, and fire department access
- (9) Assumptions when developing occupancy plans for venue floor, open areas, and nonevent spaces, such as the following:
  - (a) Event floor plans/setup diagrams for each typical event/activity
  - (b) Fire sprinkler and smoke protection capabilities
- (10) Severe weather shelter areas, locations, structure considerations (limitations), capacities (occupancy and density factor)
- (11) Command center, which includes the following:
  - (a) Location (formal or informal)
  - (b) Structural integrity considerations
  - (c) Redundant locations and/or capabilities
  - (d) Jurisdictional rights — assumed and/or applied
- (12) Locations and capacities of wheelchair and mobility-impaired seating
- (13) Locations and capacities of areas of refuge and other safe areas
- (14) Rigging or structural load capacities of grids, truss structure, fly lofts, ceilings, floors, ramps, and staging
- (15) List of locations of emergency equipment such as fire extinguishers, fire hose cabinets, fire hydrants, AEDs
- (16) Sequencing of electrical service, such as the following:
  - (a) Emergency generators and charts of all areas illuminated during power outages
  - (b) Multiple electrical feed capabilities
- (17) List of mechanical, moveable equipment in the facility
- (18) Potential hazards in the surrounding neighborhood, including train tracks and propane stations
- (19) Assumptions or accommodations considered and used in design

**16.4.1.5.5** The facility management plans shall be maintained and adjusted as necessary for changes to the venue structure, operating purposes and style, and event occupancy.

**16.4.1.5.6** Facility management and operational plans shall be submitted to the AHJ annually.

**16.4.1.5.7** 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:

- (1) Facility management shall perform an event/activity-specific facility management plan for the AHJ to review.
- (2) Approval of the AHJ for the specific facility management plan shall occur prior to such event.

*2. No further change to advisory annex text A.16.4.1.1 and A.16.4.1.3*

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**Effective Date:** September 3, 2014

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