



# NFPA 101<sup>®</sup> – 2012

## SELECT SIGNIFICANT CHANGES



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# INTRODUCTION

- *NFPA 101* is processed on a 3-year cycle
- 2012 Edition is now available
- CMS and TJC are looking into adopting it as soon as possible

# LIMITATIONS

- This does not present all changes
- Many “minor” changes might have a big impact on a specific situation

# OVERALL CHANGES

- **12.1.1 Application**
- **12.1.1.1** The requirements of this chapter shall apply to new buildings or portions thereof used as an assembly occupancy. (See *1.3.1.*)
- **12.1.1.2** The provisions of Chapter 1 Administration shall apply.
- **12.1.1.3** The provisions of Chapter 4 General shall apply.

# OVERALL

- Unless otherwise permitted by one of the following
- Unless otherwise specified by any of the following
- Shall be activated by each of the following
- Shall be permitted, provided that all of the following criteria are met
- Provided that both of the following criteria are met

# CHAPTER 2

- **2.1.2\*** Documents referenced in this chapter or portion of such documents shall only be applicable to the extent called for within other chapters of this Code.
- **2.1.3** Where the requirements of a referenced code or standard differ from the requirements of this Code, the requirements of this Code shall govern.

# NORMALLY UNOCCUPIED SUPPORT AREA

- 3.3.xx\* Normally Unoccupied Building Service Equipment Support Area. A building service equipment support area in which people are not expected to be present on a regular basis.

# NORMALLY UNOCCUPIED SUPPORT AREA

## (CONTINUED)

- A.3.3.x.x Normally unoccupied building service support areas are often found in attics, crawl spaces, chases, and interstitial areas where the space is vacant or intended exclusively for routing ductwork, cables, conduits, piping and similar services and is rarely accessed. In such spaces, it is often difficult or impossible to fully comply with the egress requirements of Chapter 7. Where portions of such spaces are routinely visited for storage, maintenance, testing or inspection, that portion is excluded from this definition, but the remainder of the space might be considered a normally unoccupied building service equipment support area. Storage and fuel-fired equipment would not be expected to be permitted in these locations. Roofs are not considered to be normally unoccupied building service equipment support areas.

# MULTIPLE OCCUPANCY BUILDINGS

- **6.1.14.3.2\*** The building shall comply with the most restrictive requirements of the occupancies involved, unless separate safeguards are approved.
- **A.6.1.14.3.2** For example, a common path of travel that occurs wholly in a business tenant space, in a multiple occupancy building containing assembly and business occupancies, should not have to meet the assembly occupancy common path of travel limitation.

# OCCUPANCY SEPARATION

- Use of an atrium as an occupancy separation
- VERY controversial. Presently not permitted

# TWO RELEASING OPERATIONS

- 7.2.1.5.10.6 Two releasing operations shall be permitted for existing hardware on a door leaf serving an area having an occupant load not exceeding 3, provided releasing does not require simultaneous operations.

# PHOTOLUMINESCENT MARKINGS

- Addresses photoluminescent markings in stair enclosures
- Numerous changes for this edition
- Still “how to do it” not “where to do it”
- Manufacturers are telling people it is mandated
- Similar to mandatory provisions set by local law in NYC

# STAIRS IN ACCESSIBLE MEANS OF EGRESS

- (1) The minimum 48 in. clear width ....
- ~~(2)\* For stairs where egress is in the descending direction, a clear width of not less than 37 in. (940 mm), measured at and below handrail height, shall be permitted where all of the following are met:~~
  - ~~(a) An approved stair descent device is provided on each floor served by the stair.~~
  - ~~(b) Additional approved stair descent devices are provided on floors with an occupant load exceeding 200 at the ratio of one device per 200 occupants.~~
  - ~~(c) The required required approved stair descent devices are provided in an approved location on the floor.~~

## TABLE 7.3.1.2 BUSINESS USES

- Business Use (other than below) 150 ft<sup>2</sup> per person
- Subsequently REJECTED by the TC during the ROC period

# EXIT DISCHARGE

- 7.7.3.4\* Stairs and ramps that continue more than one-half story beyond the level of discharge shall be provided with an approved means to prevent or dissuade occupants from traveling past the level of discharge during emergency building evacuation.
- A.7.7.3.4 Examples include partitions and gates. The design should not obstruct the normal movement of occupants to the exit discharge. Signs, graphics or pictograms, including tactile types, may be permitted for existing exit enclosures where partitions or gates.

# ENERGY SAVING LIGHTING

- 7.8.1.2.3\* Energy saving sensors, switches, timers or controllers shall be approved and shall not compromise the continuity of illumination of the means of egress required by 7.8.1.2.
- A.7.8.1.2.3 A consideration for the approval of automatic, motion-sensor type lighting switches, controls, timers or controllers is whether the equipment is listed as a fail-safe device for use in the means of egress.

# ILLUMINATION OF MEANS OF EGRESS

- 7.8.1.2.2 Unless prohibited by Chapters 11 through 43, automatic motion sensor-type lighting switches shall be permitted within the means of egress, provided that the switch controllers comply with all of the following:
  - (1) the switch controllers are listed
  - (2) the switch controllers are equipped for fail-safe operation and evaluated for this purpose
  - (3) the illumination timers are set for a minimum 15-minute duration
  - (4) the motion sensor is activated by any occupant movement in the area served by the lighting units
  - (5) the switch controller is activated by activation of the building fire alarm system, if provided



# NORMALLY UNOCCUPIED EQUIPMENT AREAS

- 7.13 Normally Unoccupied Building Service Equipment Support Areas.
- 7.13.1\* Hazard of Contents.
- 7.13.1.1 Unless prohibited by Chapters 11 through 43, the provisions of Section 7.13 shall apply in lieu of the provisions of Section 7.1 through Section 7.12 to normally unoccupied building service equipment support areas, where such areas do not contain high hazard contents or operations.

# NORMALLY UNOCCUPIED EQUIPMENT AREAS (CONTINUED)

- 7.13.2 Egress Doors.
- 7.13.2.1\* Egress from normally unoccupied building service equipment support areas shall be provided by doors complying with 7.2.1 where the normally unoccupied building service equipment support area exceeds 45,000 ft<sup>2</sup> in buildings not protected throughout by an approved, supervised automatic sprinkler system
- A.7.13.2.1 Egress from normally unoccupied building service equipment support areas not exceeding 45,000 ft<sup>2</sup> is permitted to be by access panels or other hardware not complying with the door requirements of 7.2.1.

# NORMALLY UNOCCUPIED EQUIPMENT AREAS

## (CONTINUED)

- 7.13.2.2 Egress from normally unoccupied building service equipment support areas shall be provided by doors complying with 7.2.1 where the normally unoccupied building service equipment support area exceeds 90,000 ft<sup>2</sup> in buildings protected throughout by an approved, supervised automatic sprinkler system
- 7.13.2.3 The absence of sprinklers in the normally unoccupied building service equipment support area as permitted by an exemption of NFPA 13,

# NORMALLY UNOCCUPIED EQUIPMENT AREAS

## (CONTINUED)

- Means of Egress Path
  - Width
  - Head Room
- Exit Signage
- Illumination
- Number of Means of Egress

# SMOKE BARRIER DOORS

- 8.5.4.1\* Doors in smoke barriers shall close the opening, leaving only the minimum clearance necessary for proper operation ,and shall be without ~~undercuts~~, louvers, or grilles. The clearance under the bottom of a **new** door shall be a maximum of 3/4 in.

# SMOKE BARRIER DOORS

- 8.5.4.3 Latching hardware shall be required on doors in smoke barriers, unless specifically exempted by Chapters 11 through 43.

# VERTICAL OPENINGS

- 8.6.3 Continuity Exemptions. The requirements of 8.6.2 shall not apply where otherwise permitted by the following:
- (1) Penetrations for cables, cable trays, conduits, pipes, tubes, combustion vents and exhaust vents, wires, pneumatic tube conveyors, and similar items to accommodate electrical, mechanical, plumbing, and communications systems protected in accordance with 8.3.5.1 and 8.5.6.

# GLASS WITH SPRINKLERS

- Using glass with sprinkler protection as a fire-rated barrier remains a VERY controversial subject
- *Code* currently does not prohibit it, nor does it recognize it
- Proposals to prohibit have been rejected because of 2/3 vote requirement
- IBC prohibits it

# FIRE PROTECTION SYSTEM MAINTENANCE

- 9.7.6\* Sprinkler System Impairments.
- ~~9.7.6.1 Where a required automatic sprinkler system is out of service for more than 4 hours in a 24-hour period, the authority having jurisdiction shall be notified, and the building shall be evacuated or an approved fire watch shall be provided for all parties left unprotected by the shutdown until the sprinkler system has been returned to service.~~
- ~~9.7.6.2 Sprinkler impairment procedures shall comply with NFPA 25~~

# FACP PROTECTION

- 9.6.1.8.1\* In areas that are not continuously occupied, and unless otherwise permitted by 9.6.1.8.1.1 or 9.6.1.8.1.2, automatic smoke detection shall be installed to provide notification of fire at the following locations:
  - (1) Each fire alarm control unit
  - (2) Notification appliance circuit power extenders
  - (3) Supervising station transmitting equipment
- 9.6.1.8.1.1 The provisions of (2) and (3) shall not apply to existing alarm systems.
- 9.6.1.8.1.2 Where ambient conditions prohibit installation of a smoke detector, a heat detector shall be used.
- ~~9.6.1.8.1.3 Automatic smoke detection shall not be required where buildings are protected throughout by an approved, supervised automatic sprinkler~~

# CO ALARMS

- 9.8 Carbon Monoxide (CO) Detection and Warning Equipment. Where required by another section of this *Code*, carbon monoxide (CO) detection and warning equipment shall be provided in accordance with NFPA 720, *Standard for the Installation of Carbon Monoxide (CO) Detection and Warning*

# LOCKERS

- 10.2.1.5 Lockers constructed of combustible materials shall be considered interior finish.
- 10.3.8 Lockers.
- 10.3.8.1 Combustible lockers. Where lockers constructed of combustible materials other than wood are used, the lockers shall be considered interior finish and shall comply with Section 10.2, except as permitted by 10.3.8.2.
- 10.3.8.2 Wood lockers. Lockers constructed entirely of wood and of noncombustible materials shall be permitted to be used in any location where interior finish materials are required to meet a Class C classification...

# POLYPROPYLENE & HIGH DENSITY POLYETHYLENE

- 10.2.4.7 Polypropylene (PP) and High Density Polyethylene (HDPE). Polypropylene and high density polyethylene materials shall not be permitted as interior wall or ceiling finish unless the material complies with the requirements of Section 10.2.3.7.2. The tests shall be performed on a finished assembly and on the maximum thickness intended for use.

# ROOM-CORNER TEST NFPA 286



# SITE-FABRICATED STRETCH SYSTEMS

- 10.2.4.8 Site-fabricated stretch systems. For new installations, site fabricated stretch systems containing all three components described in the definition in Chapter 3 shall be tested in the manner intended for use, and shall comply with the requirements of Section 10.2.3. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2573.S

# REFLECTIVE INSULATION

- 10.2.4.9 Reflective insulation materials. Reflective insulation materials shall be tested in the manner intended for use, and shall comply with the requirements of Section 10.3.2 or 10.3.6.2. If the materials are tested in accordance with ASTM E 84 or UL 723, specimen preparation and mounting shall be in accordance with ASTM E 2599.

# HIGH RISE

- 11.8.1 General.
- 11.8.1.1. The provisions of Section 11.8 shall apply to the following:
  - (1) new high-rise buildings as defined in 3.3.32.7
  - (2) existing high-rise buildings as required by Chapters 13, 15, 17, 19, 21, 23, 26, 29, 31, 33, 37, 39, 40, 41 or 43.

# HIGH RISE – STANDBY POWER

- 11.8.5.2.4 The standby power system shall be connected to the following:
  - (1) Electric fire pump
  - (2) Jockey pump
  - (3) Air compressor serving dry pipe and pre-action systems
  - (4) Emergency command center equipment and lighting
  - (5) Not less than one elevator serving all floors....
  - (6) Mechanical equipment for smokeproof enclosures
  - (7) Mechanical ...



# ASSEMBLY – SPRINKLER PROTECTION



- 12.3.5.1 The following assembly occupancies shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1):
  - ~~(a) Bars with live entertainment~~
  - (a) Dance halls
  - (b) Discotheques
  - (c) Nightclubs
  - (d) Assembly occupancies with festival seating
- 13.3.5.1 Where the occupant load exceeds 100, the following assembly occupancies shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1):
  - ~~(a) Bars with live entertainment~~
  - (a) Dance halls
  - (b) Discotheques
  - (c) Nightclubs
  - (d) Assembly occupancies with festival seating

# EDUCATIONAL - SPRINKLERS

- 14.3.5.1\* Educational occupancy buildings exceeding 12,000 ft<sup>2</sup> ~~20,000 ft<sup>2</sup>~~ shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

# EXISTING EDUCATIONAL

- 15.3.4.3.2 Emergency Forces Notification.
- 15.3.4.3.2.1 Wherever any of the school authorities determine that an actual fire exists, they shall immediately call the local fire department using the public fire alarm system or other available facilities.
- 15.3.4.3.2.2 Emergency forces notification shall be accomplished in accordance with 9.6.4 where the existing fire alarm system is replaced.

# DAY CARE HOMES

- Extensive work done to clarify the difference between exit and escape
- Depending on how one interpreted previous editions, this could either be more stringent or less stringent

# CO ALARMS DAY CARE HOMES

- 16.6.3.4.4 Single station or multiple station carbon monoxide alarms or detectors shall be provided in accordance with Section 9.8 in day-care homes where client sleeping occurs and one or both of the following conditions exists:
  - (1) Fuel-fired equipment is present
  - (2) An enclosed parking structure is attached to the day-care home

# EXISTING DAY CARE

- 17.3.4.4 Emergency Forces Notification.
- 17.3.4.4.1 Emergency forces notification, other than for day-care occupancies with not more than 100 clients, shall be accomplished in accordance with 9.6.4.
- 17.3.4.3.2.2 Emergency forces notification shall be accomplished in accordance with 9.6.4 where the existing fire alarm system is replaced.

# HEALTH CARE CORRIDORS

- (5)\* Projections into the required width shall be permitted for wheeled equipment in use and carts in use.
- (6)\* Projections into the required width shall be permitted for wheeled medical emergency equipment not in use.
- (7)\* Where the corridor width is at least 8 ft, projections into the required width shall be permitted for fixed furniture provided that all of the following conditions are met:
  - (a) The furniture is securely attached to the floor or to the wall.
  - (b) The fixed furniture does not reduce the clear unobstructed corridor width to less than 6 ft except as permitted by 18.2.3.4 (2) and (3).
  - (c) The fixed furniture is located only on one side of the corridor
  - (d) The fixed furniture is grouped such that each grouping does not exceed an area of 50 sq ft
  - (e) The fixed furniture groupings addressed in 18.2.3.4(7)(d) are separated from each other by a distance of at least 10 ft.
  - (f)\* The fixed furniture is located so as to not obstruct access to building service and fire protection equipment.
  - (g) Corridors throughout the smoke compartment are protected by an electrically supervised automatic smoke detection system...

# SUITE INTERVENING ROOMS

- 18/19.2.5.7.2.1 Sleeping Suite Arrangement.
- (A)\* Occupants of habitable rooms within sleeping suites shall have exit access to a corridor complying with 18.3.6 ~~without having to pass through more than one intervening room.~~
- 18/19.2.5.7.3.1\* Non-Sleeping Suite Arrangement. Occupants of habitable rooms within non-sleeping suites shall have exit access to a corridor complying with 18/19.3.6 ~~without having to pass through more than two intervening rooms.~~
- 18/19.2.5.7.3.4 Non-Sleeping Suite Travel Distance.
- (A) Travel distance within a non-sleeping suite to an exit access door from the suite shall not exceed 100 ft. ~~the following:~~
  - ~~(1) 100 ft where the suite is arranged with one intervening room~~
  - ~~(2) 50 ft where the suite is arranged with two intervening rooms~~
- (B) Travel distance .....

# SLEEPING SUITE MAXIMUM SIZE

- 18.2.5.7.2.3 Sleeping Suite Maximum Size.
- (A) Reserved.
- (B) Sleeping suites shall not exceed ~~5000 ft<sup>2</sup>~~-7500 ft<sup>2</sup>, unless otherwise provided in 18.2.5.7.2.3(C)
- (C) Sleeping suites greater than ~~5000 ft<sup>2</sup>~~-7500 ft<sup>2</sup> and not exceeding ~~7500 ft<sup>2</sup>~~-10,000 ft<sup>2</sup> shall be permitted where both of the following are provided in the suite:
  - (1)\* Direct visual supervision in accordance with.....
  - (2) Total coverage (complete) automatic smoke detection in accordance with 9.6.2.9 and 18.3.4.

# SLEEPING SUITE MAXIMUM SIZE

- 19.2.5.7.2.3 Sleeping Suite Maximum Size.
- (A) Sleeping suites shall not exceed 5000 ft<sup>2</sup> unless otherwise provided in (B) or (C).
- (B) Sleeping suites shall not exceed 7500 ft<sup>2</sup> where the smoke compartment is protected throughout by one of the following:
- (1) an approved, electrically supervised sprinkler system in accordance with 19.3.5.7 and total coverage (complete) automatic smoke detection in accordance with....
- (2) an approved, electrically supervised sprinkler system protection complying with...
- (C) Sleeping suites greater than ~~5000 ft<sup>2</sup>~~ 7500 ft<sup>2</sup> and not exceeding ~~7500 ft<sup>2</sup>~~ 10,000 ft<sup>2</sup> shall be permitted where all of the following are provided in the suite:
- (1)\* Direct visual supervision in accordance with 19.2.5.7.2.1(C)(1)(a)
- (2) Total coverage (complete) automatic smoke detection in accordance with....
- (3) Approved, electrically supervised sprinkler system protection complying with...

# EXISTING AMBULATORY HEALTH CARE

- Extensive work has been done to eliminate items where chapter 21 was more stringent than Chapter 19
- Numerous changes in Chapter 21

# DETENTION AND CORRECTIONAL

- Add a new 22.4.5.1.6 and 23.4.5.1.6 to read as follows:
- 22.4.5.1.6 The fire department with responsibility to respond to a building that contains a lock-up shall be notified of the presence of the lock-up.
- 23.4.5.1.6 The fire department with responsibility to respond to a building that contains a lock-up shall be notified of the presence of the lock-up.

# ONE- AND TWO-FAMILY DWELLINGS

- 24.3.4.2 CO alarms or CO detectors shall be provided in new one- and two-family dwellings with communicating attached garages or containing fuel burning appliances in accordance with Section 9.8 and 24.3.4.3.
- 24.3.4.3 Where required by 24.3.4.2, CO alarms or CO detectors shall be installed as follows:
  - (1) Outside of each separate dwelling unit sleeping area in the immediate vicinity of the bedrooms
  - (2) On every occupiable level of a dwelling unit, including basements, excluding attics and crawl spaces
  - (3) Other locations where required by applicable laws....

# LODGING AND ROOMING HOUSES

- 26.3.4.6.1 General. CO alarms or CO detectors shall be provided in new lodging or rooming houses with communicating attached garages or containing fuel burning appliances in accordance with Section 9.8 and 26.3.4.6.3 unless otherwise provided in 26.3.4.6.2.
- See the ROC for details

# HOTELS AND DORMITORIES

- 28/29.7.3 Drills in Dormitories. Emergency egress and relocation drills in accordance with Section 4.7 shall be held with sufficient frequency to familiarize occupants with all types of hazards and to establish conduct of the drill as a matter of routine. Drills shall be conducted during peak occupancy periods and shall include suitable procedures to ensure that all persons subject to the drill participate.

# SMALL BOARD AND CARE

- 32.2.3.4.5 All non-sprinklered, combustible attics shall be protected throughout by a heat detection system arranged to activate the building fire alarm system in accordance with Section 9.6.

# SMALL BOARD AND CARE

- 32.2.3.5.3.1 In buildings four or fewer stories above grade plane, systems in accordance with NFPA 13R..., *shall* be permitted. All habitable areas, and closets, roofed porches, roofed decks, and roofed balconies, shall be sprinklered.
- 32.2.3.5.3.2\* An automatic sprinkler system with a 30-minute water supply, and complying with the following requirements and with NFPA 13D, ... shall be permitted:
  - (1) All habitable areas, and closets, roofed porches, roofed decks, and roofed balconies, shall be sprinklered.
  - (2) Facilities with more than eight residents.....

# LARGE BOARD & CARE - IMPRACTICAL

- Extensive changes to coordinate with Chapters 18 & 19

# LARGE BOARD & CARE

- 33.3.3.4.9 All non-sprinklered, combustible attics shall be protected throughout by a heat detection system arranged to activate the building fire alarm system in accordance with Section 9.6.

# EVACUATION ELEVATORS

- 7.14 ~~Annex B~~ Elevators for Occupant-Controlled Evacuation Prior to Phase I Emergency Recall Operations

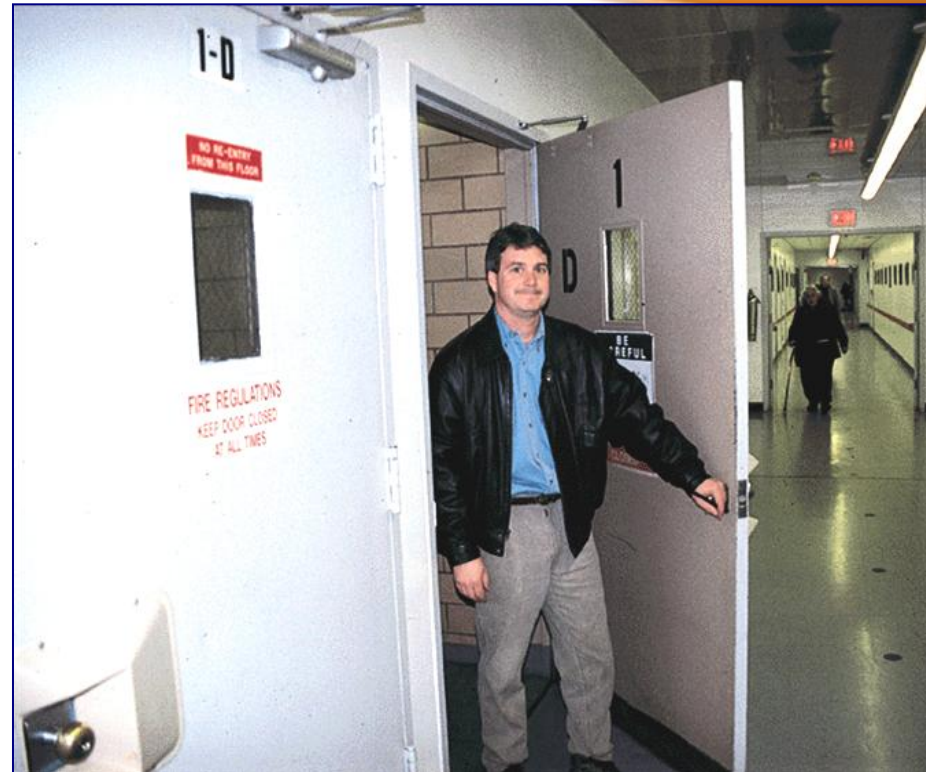
# HEALTH CARE

- Some of the significant changes since 2000

# HEALTH CARE REHABILITATION

- Non-sprinklered must comply with 18.4.3 unless major
- Major renovations
  - Defined by 18/19.1.1.4.3.1
  - Sprinkler smoke compartment involved
  - Sprinkler options permitted per smoke compartment

# EXIT ENCLOSURE OPENINGS



# LOCKING ARRANGEMENTS



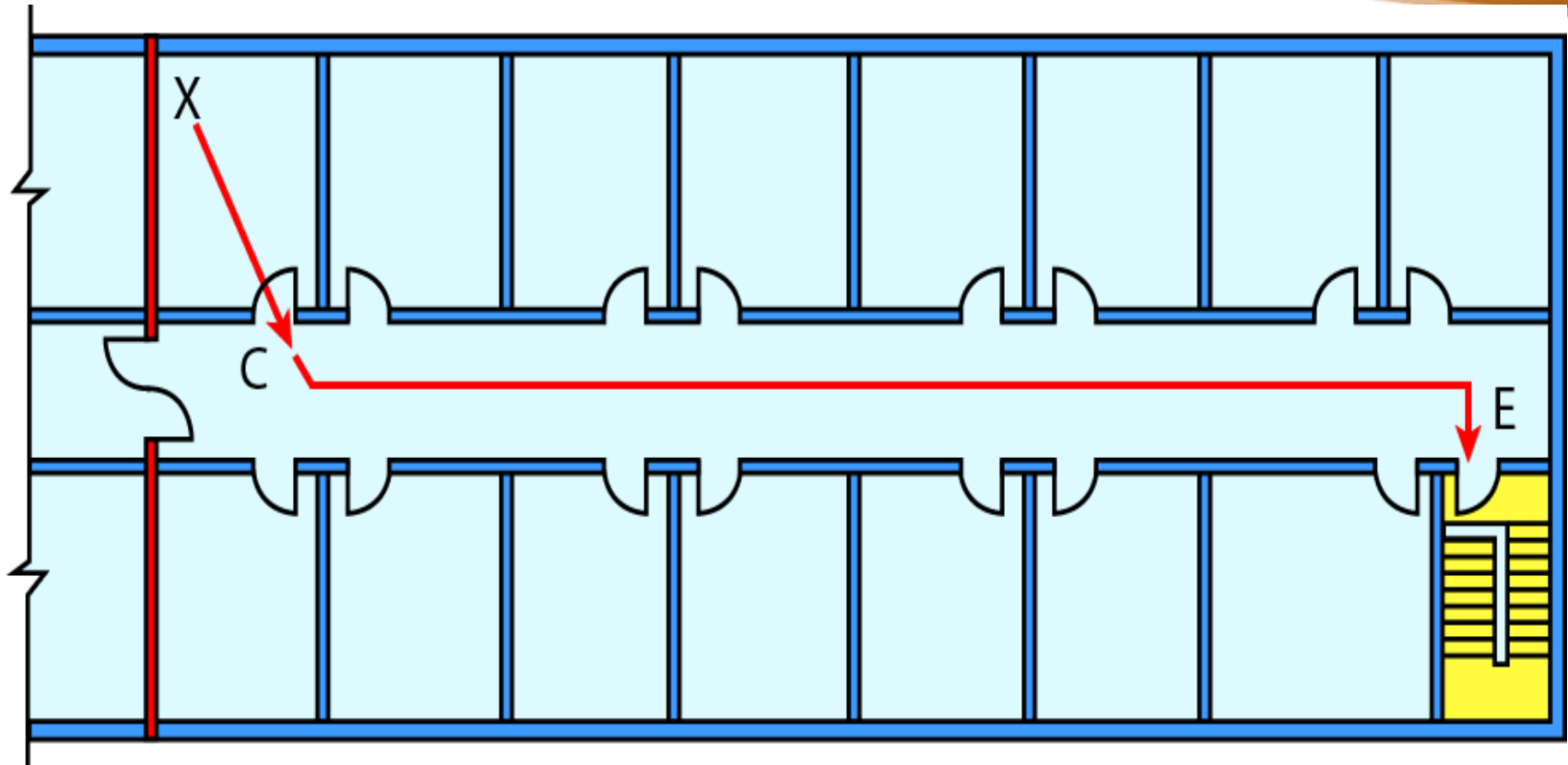
# MANUAL SLIDING DOORS



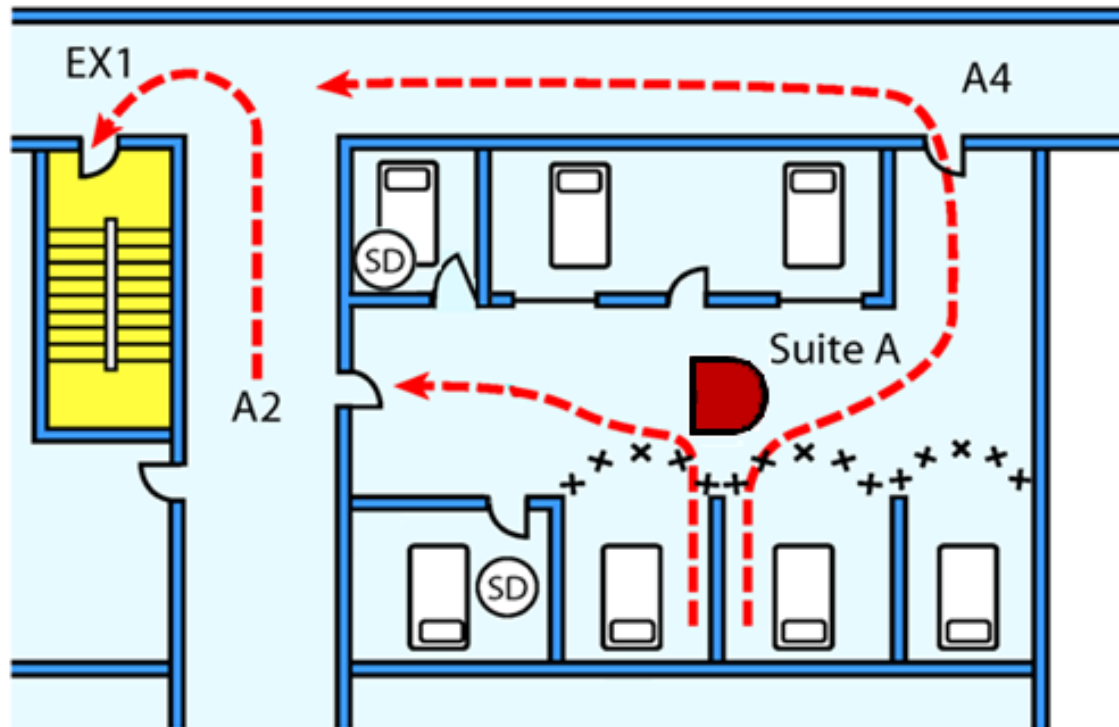
# CORRIDOR PROJECTIONS


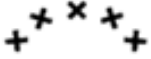




# HEALTH CARE TRAVEL DISTANCE

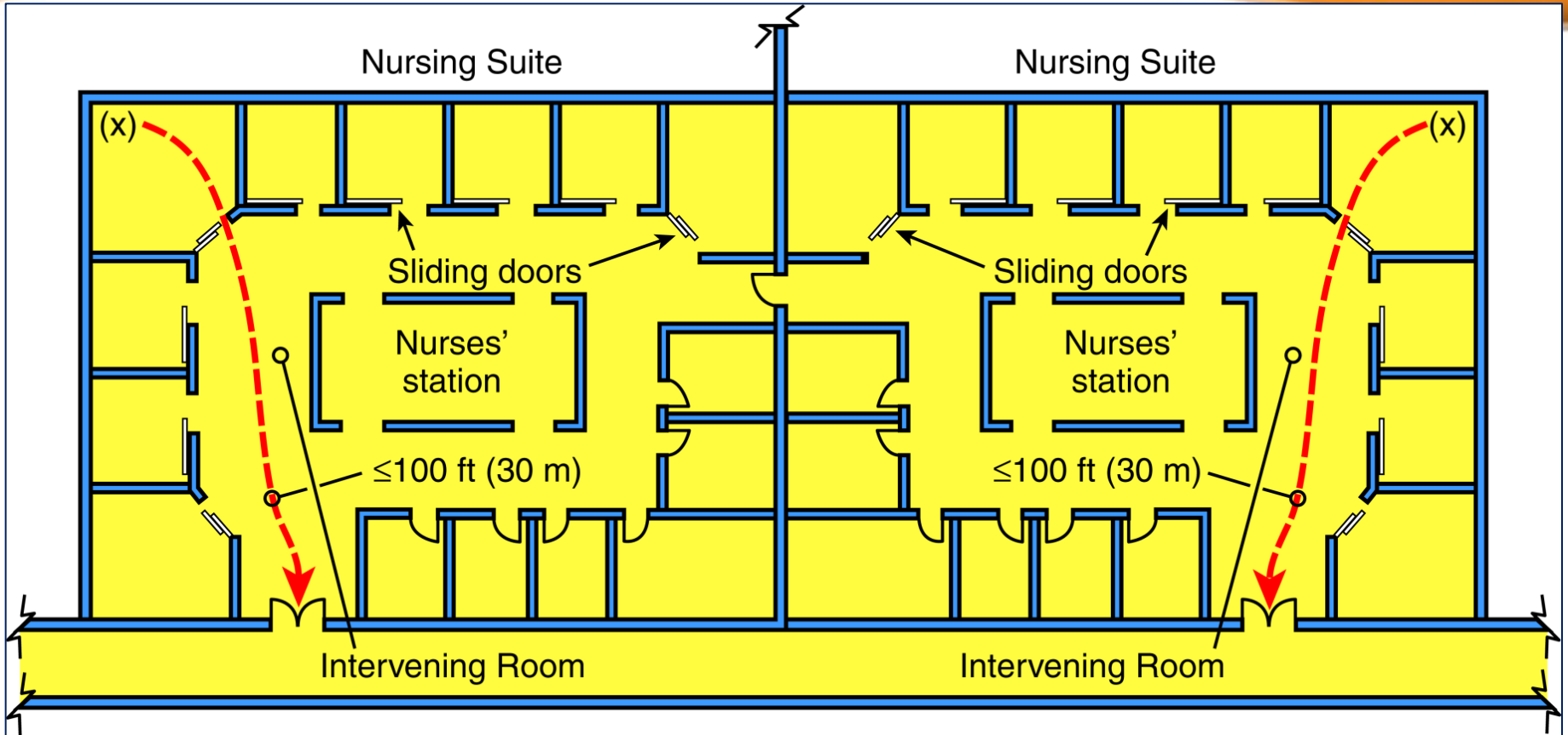


# SUITES - ARRANGEMENT



- Key:
-  Glass vision panel
  -  Cubicle primary curtain
  -  Smoke detection
  -  Patient bed

# EGRESS THROUGH ADJOINING SUITE



# FREE WEBINAR

- **Free Webinar-NFPA Code Compliance for Health Care Facilities 11/29 - Sponsored and presented by Koffel Associates**
- Join industry experts, William Koffel, P.E., FSFPE and Jennifer Frecker in this 90-minute webinar to review common compliance issues cited by TJC and CMS surveyors so that you will know how to avoid these citations. Also review helpful provisions in later editions of NFPA 101, including the 2012 Edition, that can be used to address common compliance issues involving larger suites, corridor clutter and other issues. Koffel Associates is actively involved in code compliance and are recognized experts in comprehensive Life Safety Code® consulting, surveying, analysis, and design for health care facilities. You may download a file at [www.koffel.com/compliance](http://www.koffel.com/compliance) prior to the webinar. To register for the webinar go to: <https://www2.gotomeeting.com/register/790382050>



# QUESTIONS AND DISCUSSION

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