



NFPA 101 – HEALTH CARE 2000 TO 2012

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INTRODUCTION

- Numerous changes over the last 12 years
- Most changes will help facilities comply with the Code
- NITMAMs will be heard later this week
- Not final until approved by the NFPA Standards Council

LIMITATIONS

- This does not present all changes
- Many “minor” changes might have a big impact on a specific situation.
- Wording provided is not exact wording

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:

ALL OCCUPANCY CHAPTERS

- **18.1.1 Application.**
- **18.1.1.1** The requirements of this chapter shall apply to new buildings or portions thereof.....
- **18.1.1.2** The provisions of Chapter 1 Administration shall apply.
- **18.1.1.3** The provisions of Chapter 4 General shall apply.

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.
- Extensive annex note explaining

BUILDING REHABILITATION

- Changes in Chapter 4
- New Chapter 43
- Categories
 - Repair
 - Renovation
 - Modification
 - Reconstruction
 - Change of use or occupancy
 - Addition

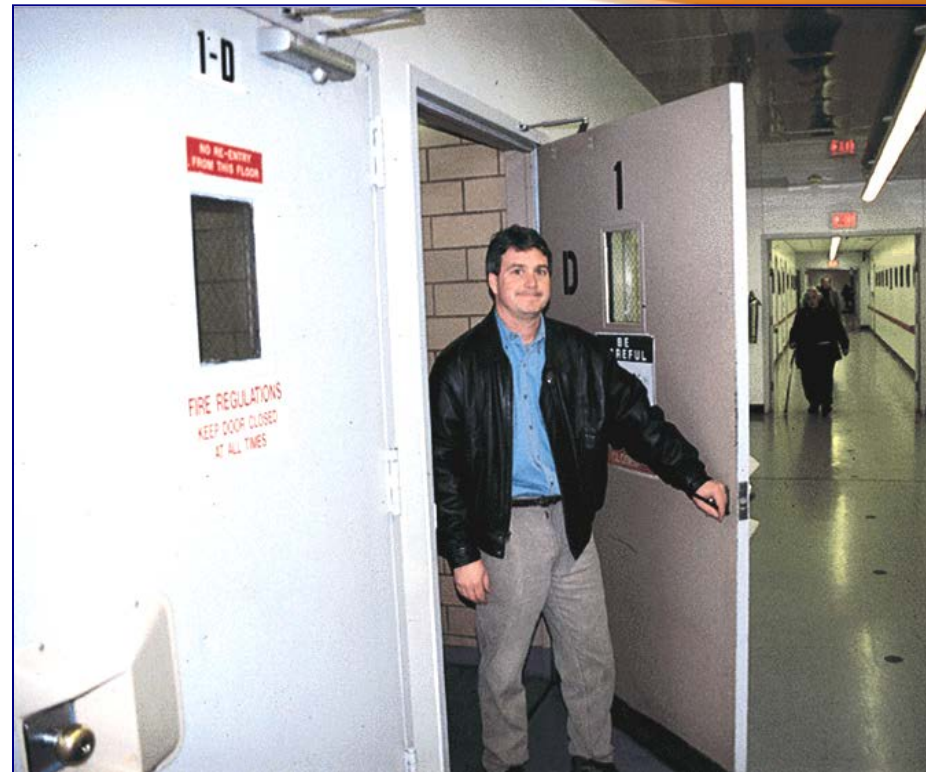
MULTIPLE OCCUPANCY BUILDINGS

- **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 - ATRIA

- Use of an atrium as an occupancy separation
- VERY controversial. At this point you can still not do it without AHJ approval.

EXIT ENCLOSURE OPENINGS



ELECTRICALLY CONTROLLED DOORS

- Electrically locked
- Release equipment affixed to door
- Readily operated the direction of egress
- One handed operation
- Interrupts power supply directly to the lock
- Fail safe
- Basically it is electric panic hardware

TWO RELEASING OPERATIONS



PHOTOLUMINESCENT MARKINGS

- Addresses photoluminescent marking 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), ..., shall be permitted ...are met:~~
- ~~(a) An approved stair descent device is provided~~
- ~~(b) Additional ...stair descent devices are provided on floors with an occupant load exceeding....~~
- ~~(c) The 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 ft² per person
- Subsequently REJECTED by the TCC

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.

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

- Unless prohibited by Chapters 11 through 43, automatic motion sensor-type lighting switches shall be permitted ... provided that the ...all of the following:
- (1) the switch controllers are listed
- (2) the switch controllers...fail-safe operation and evaluated for this purpose,
- (3) ...set for a minimum 15-minute duration,
- (4) ...activated by ...occupant movement in the area ...
- (5) ...activated by ... fire alarm system, if provided.



NORMALLY UNOCCUPIED EQUIPMENT AREAS

- 7.13 Normally Unoccupied Building Service Equipment Support Areas.
- 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.

BUILDING SERVICE EQUIPMENT SUPPORT AREAS

- 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 ... exceeds **45,000 Ft²** in **buildings not** protected throughout by an ... automatic **sprinkler** system
- A.7.13.2.1 Egress from ... areas not exceeding 45,000 ft² is permitted to be by access panels or other hardware not complying with the door requirements of 7.2.1.

BUILDING SERVICE EQUIPMENT SUPPORT AREAS

- 7.13.2.2 Egress from normally unoccupied building service equipment support areas shall be provided by doors complying with 7.2.1 where ...area exceeds **90,000 ft²** in **buildings** protected throughout by an ... 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

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

Component	Walls and Partitions (hr)	Fire Doors Assemblies (hr)	Fire Window Assemblies (hr)
Elevator Hoistways	2	1 ½	NP
	1	1	NP
Vertical Shafts (including stairways, exits, and refuse chutes)	2	1 ½	NP
	1	1	NP
	½	1/3	NP
Fire Barriers	3	3	NP
	2	1 ½	NP
	1	¾	¾
	½	1/3	1/3
Horizontal Exits	2	1 ½	NP
Horizontal Exits Served by Bridges Between Buildings	2	¾	¾
Exit Access Corridor†	1	1/3	¾
	½	1/3	1/3
Smoke Barriers†	1	1/3	¾
Smoke Partitions† *	½	1/3	1/3

NP: Not Permitted

† Fire doors are not required to have a hose stream test per NFPA 252, *Standard Methods of Fire Tests of Door Assemblies*, ASTM E 2074, *Standard Test Method for Fire Tests of Door Assemblies, Including Positive Pressure Testing of Side-Hinged and Pivoted Swinging Door Assemblies*, ANSI/UL 10B, *Standard for Fire Tests of Door Assemblies*, or ANSI/UL 10C, *Standard for Positive Pressure Fire Tests of Door Assemblies*.

* For residential board and care, see 32.2.3.1 and 33.2.3.1



FIRE RATED GLAZING



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.
- Health care does exempt them

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.

FIRE RESISTANCE USING SPRINKLERS ON GLASS



ALCOHOL BASED HAND RUBS – CHAPTER 8

- 8.7.3.3* Alcohol-Based Hand-Rub Dispensers. Where permitted by Chapters 11 through 43, alcohol-based hand-rub dispensers shall be permitted provided they meet all of the following criteria:
 - NITMAM has been submitted

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

- In areas that are not continuously occupied, ...automatic smoke detection shall be installed...at the following locations:
- (1) Each fire alarm control unit
- (2) Notification appliance circuit power extenders
- (3) Supervising station transmitting equipment
- The provisions of (2) and (3) shall not apply to existing...
- Where ambient conditions prohibit
- ~~9.6.1.8.1.3 Automatic smoke detection shall not be required where buildings are protected throughout by an approved, supervised automatic sprinkler~~

LOCKERS

- Where lockers constructed of combustible materials other than wood are used, the lockers shall be considered interior finish ...
- 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 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



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)

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

HEALTH CARE - MANUAL SLIDING DOORS



HEALTH CARE - LOCKING ARRANGEMENTS



CORRIDOR PROJECTIONS



HEALTH CARE CORRIDORS

- Wheeled equipment and carts in use
- Wheeled medical emergency equipment
- Patient lift and transport equipment
- Fixed furniture
- 5 ft clear corridor must remain

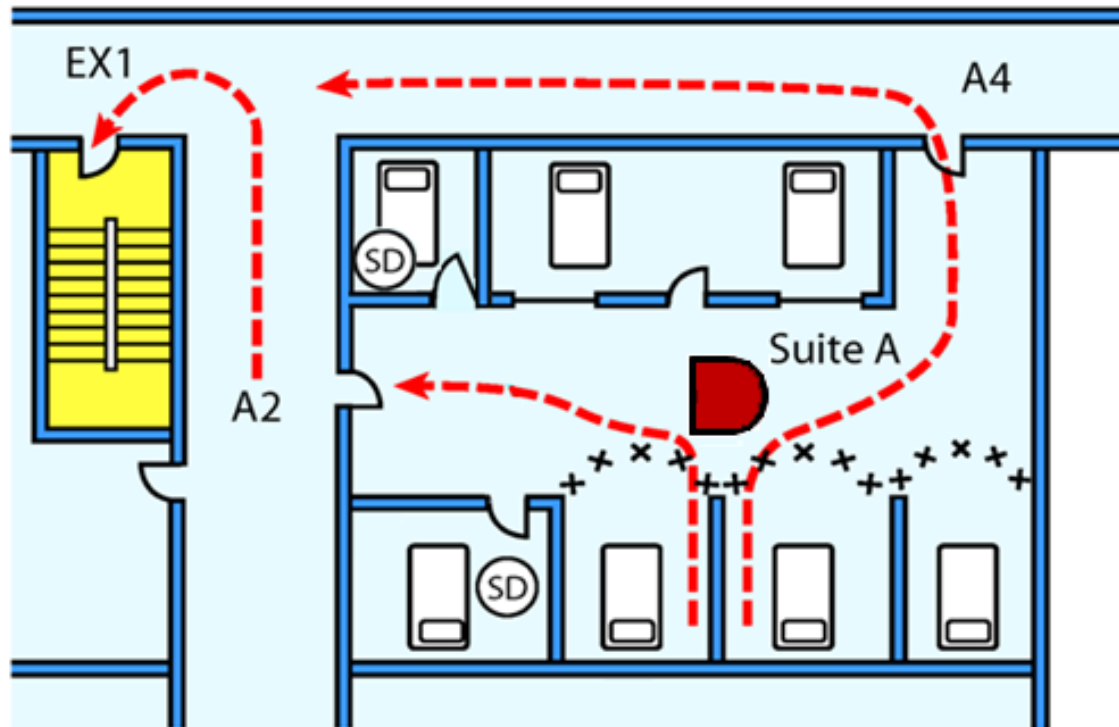
SUITES SECTION TOTALLY REORGANIZED


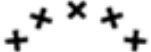


- General
 - Permission
 - Separation
 - Hazardous Contents Areas
 - Suite Subdivision
- Sleeping Suites
- Non-Sleeping Suites
- Non-Patient-Care Suites

SLEEPING SUITES

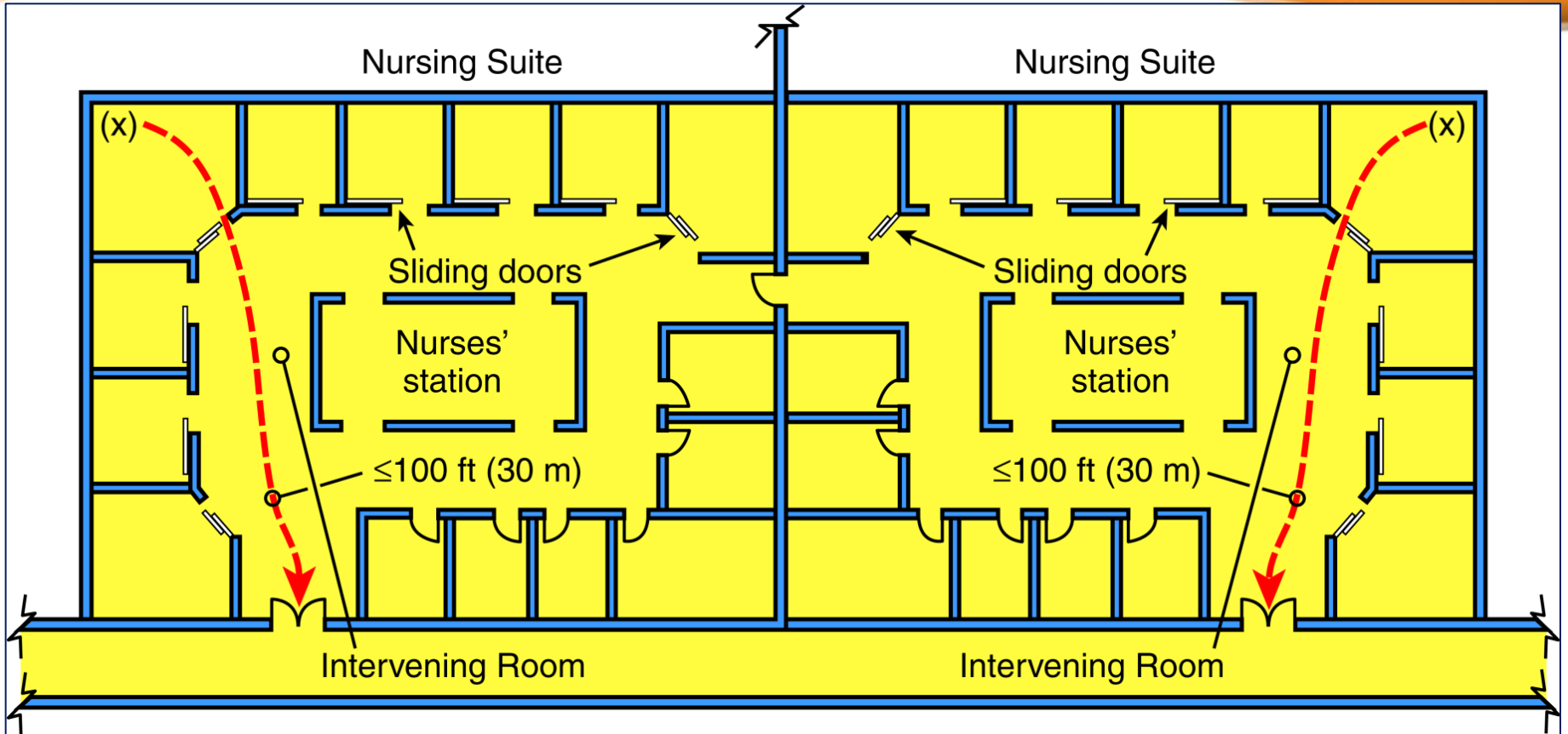
- Sleeping Suites
 - Arrangement
 - Next 2 slides
 - Number of Means of Egress
 - Maximum Size
 - Significant increases – upcoming slide
 - Travel Distance

SUITES - ARRANGEMENT



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

EGRESS THROUGH ADJOINING SUITE



SUITE INTERVENING ROOMS

- Eliminates the limit on the number of intervening rooms in both sleeping and non-sleeping suites
- 100 ft distance to an exit access door regardless of the number of intervening rooms

SLEEPING SUITE MAXIMUM SIZE - NEW

- Shall not exceed 7500 ft², unless
- Greater than 7500 ft² and not exceeding 10,000 ft² shall be permitted where **both** of the following are provided in the suite:
 - Direct visual supervision
 - Full automatic smoke detection

SLEEPING SUITE MAXIMUM SIZE - EXISTING

- Not exceed 5000 ft²
- Not exceed 7500 ft² where smoke compartment has:
 - sprinkler system and complete smoke detection OR
 - sprinkler system with QRS
- Greater than 7500 ft² not exceeding 10,000 ft² where:
 - Direct visual supervision AND
 - Total coverage (complete) automatic smoke detection AND
 - Sprinkler system protection with QRS

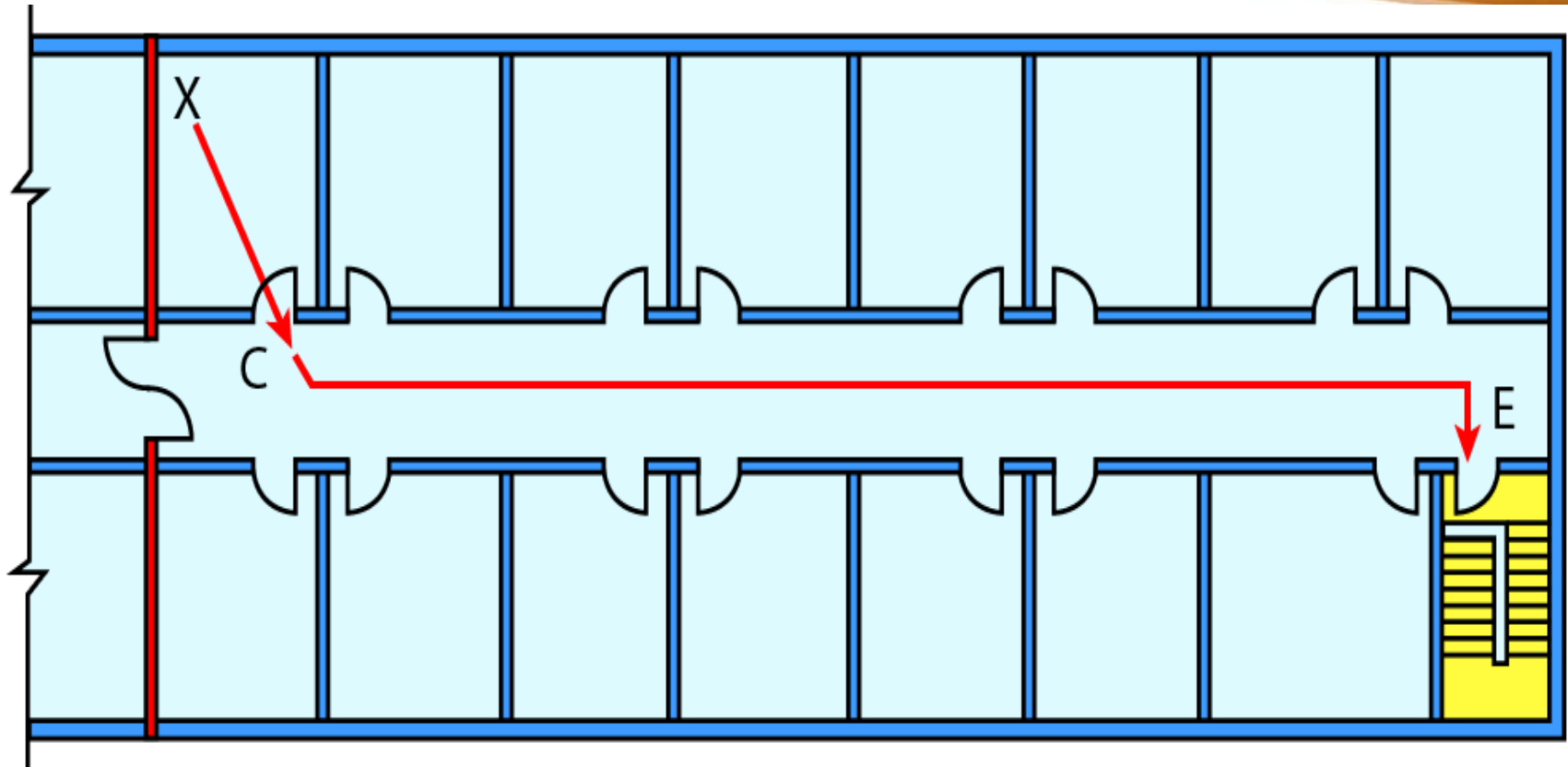
NON-SLEEPING SUITE

- Arrangement
 - Number of intervening rooms eliminated
- Number of Means of Egress
 - Egress through adjoining suite permitted (2nd route)
- Maximum Size
 - No increases – needs to be addressed for 2015
- Travel Distance

NON-PATIENT-CARE SUITE

- In accordance with primary use and occupancy of the space

HEALTH CARE TRAVEL DISTANCE



COOKING EQUIPMENT

- Residential cooking equipment used for food warming or limited cooking
- Residential or commercial cooking equipment used for ≤ 30 persons OPEN to corridor
- Residential or commercial cooking equipment used for ≤ 30 persons NOT open to corridor

ALCOHOL-BASED HAND RUBS



PATENT ROOM CLOSETS



OUTSIDE WINDOWS

- All provisions deleted

EXISTING HIGH RISE

- Must be protected by automatic sprinklers within 12 years of adoption of the Code

TRASH AND LINEN CONTAINERS

- Containers used solely for recycling clean waste or for patient records awaiting destruction... excluded from the limitations...where the following conditions are met:
- (1) Each container is limited to a capacity of 96 gal.
- (2)* Containers ... greater than 96 gal shall be located in... a hazardous area when not attended.
- (3) Container...not be limited in hazardous areas.
- (4) Containers for combustibles shall be labeled and listed as meeting the requirements of FM Approval Standard 6921.
- NITMAM

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

EVACUATION ELEVATORS

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



QUESTIONS AND DISCUSSION