**Chapter 18 New Health Care Occupancies**

18.1 General Requirements

18.1.1 Application

18.1.1.1 General

18.1.1.1.1\*

The requirements of this chapter shall apply to new buildings or portions thereof used as health care occupancies. (See 1.3.1.)

18.1.1.1.2 Administration

The provisions of Chapter 1, Administration, shall apply.

18.1.1.1.3 General

The provisions of Chapter 4, General, shall apply.

18.1.1.1.4

The requirements established by this chapter shall apply to the design of all new hospitals, nursing homes, and limited care facilities. The term hospital, wherever used in this Code, shall include general hospitals, psychiatric hospitals, and specialty hospitals. The term nursing home, wherever used in this Code, shall include nursing and convalescent homes, skilled nursing facilities, intermediate care facilities, and infirmaries in homes for the aged. Where requirements vary, the specific subclass of health care occupancy that shall apply is named in the paragraph pertaining thereto. The requirements established by Chapter 20 shall apply to all new ambulatory health care facilities. The operating feature requirements established by Section 18.7 shall apply to all health care occupancies.

18.1.1.1.5

The health care facilities regulated by this chapter shall be those that provide sleeping accommodations for their occupants and are occupied by persons who are mostly incapable of self-preservation because of age, because of physical or mental disability, or because of security measures not under the occupants' control.

18.1.1.1.6

Buildings, or sections of buildings, that primarily house patients who, in the opinion of the governing body of the facility and the governmental agency having jurisdiction, are capable of exercising judgment and appropriate physical action for self-preservation under emergency conditions shall be permitted to comply with chapters of this Code other than Chapter 18.

18.1.1.1.7\*

It shall be recognized that, in buildings housing certain patients, it might be necessary to lock doors and bar windows to confine and protect building inhabitants.

18.1.1.1.8

Buildings, or sections of buildings, that house older persons and that provide activities that foster continued independence but that do not include services distinctive to health care occupancies (see 18.1.4.2), as defined in 3.3.198.7, shall be permitted to comply with the requirements of other chapters of this Code, such as Chapters 30 or 32.

18.1.1.1.9\*

The requirements of this chapter shall apply based on the assumption that staff is available in all patient-occupied areas to perform certain emergency control functions as required in other paragraphs of this chapter.

18.1.1.2\* Goals and Objectives

The goals and objectives of Sections 4.1 and 4.2 shall be met with due consideration for functional requirements, which are accomplished by limiting the development and spread of a fire emergency to the room of fire origin and reducing the need for occupant evacuation, except from the room of fire origin.

18.1.1.3 Total Concept

18.1.1.3.1

All health care facilities shall be designed, constructed, maintained, and operated to minimize the possibility of a fire emergency requiring the evacuation of occupants.

18.1.1.3.2

Because the safety of health care occupants cannot be ensured adequately by dependence on evacuation of the building, their protection from fire shall be provided by appropriate arrangement of facilities; adequate, trained staff; and development of operating and maintenance procedures composed of the following:

Design, construction, and compartmentation

Provision for detection, alarm, and extinguishment

Fire prevention procedures and planning, training, and drilling programs for the isolation of fire, transfer of occupants to areas of refuge, or evacuation of the building

18.1.1.4 Additions, Conversions, Modernization, Renovation, and Construction Operations

18.1.1.4.1 Additions

Additions shall be separated from any existing structure not conforming to the provisions within Chapter 19 by a fire barrier having not less than a 2-hour fire resistance rating and constructed of materials as required for the addition. (See 4.6.7 and 4.6.11.)

18.1.1.4.1.1

Communicating openings in dividing fire barriers required by 18.1.1.4.1 shall be permitted only in corridors and shall be protected by approved self-closing fire door assemblies. (See also Section 8.3.)

18.1.1.4.1.2

Doors in barriers required by 18.1.1.4.1 shall normally be kept closed, unless otherwise permitted by 18.1.1.4.1.3.

18.1.1.4.1.3

Doors shall be permitted to be held open if they meet the requirements of 18.2.2.2.7.

18.1.1.4.2 Changes of Use or Occupancy Classification

Changes of use or occupancy classification shall comply with 4.6.11, unless otherwise permitted by one of the following:

A change from a hospital to a nursing home or from a nursing home to a hospital shall not be considered a change in occupancy classification or a change in use.

A change from a hospital or nursing home to a limited care facility shall not be considered a change in occupancy classification or a change in use.

18.1.1.4.3 Rehabilitation

18.1.1.4.3.1

For purposes of the provisions of this chapter, the following shall apply:

A major rehabilitation shall involve the modification of more than 50 percent, or more than 4500 ft2 (420 m2) gross, of the area of the smoke compartment.

A minor rehabilitation shall involve the modification of not more than 50 percent, and not more than 4500 ft2 (420 m2) gross, of the area of the smoke compartment.

18.1.1.4.3.2

Work that is exclusively plumbing, mechanical, fire protection system, electrical, medical gas, or medical equipment work shall not be included in the computation of the modification area within the smoke compartment.

18.1.1.4.3.3\*

Where major rehabilitation is done in a nonsprinklered smoke compartment, the automatic sprinkler requirements of 18.3.5 shall apply to the smoke compartment undergoing the rehabilitation, and, in cases where the building is not protected throughout by an approved automatic sprinkler system, the requirements of 18.4.5.2, 18.4.5.3, and 18.4.5.8 shall also apply.

18.1.1.4.3.4\*

Where minor rehabilitation is done in a nonsprinklered smoke compartment, the requirements of 18.3.5.1 shall not apply, but, in such cases, the rehabilitation shall not reduce life safety below the level required for new buildings or below the level of the requirements of 18.4.4 for nonsprinklered smoke compartment rehabilitation. (See 4.6.7.)

18.1.1.4.4 Construction, Repair, and Improvement Operations

See 4.6.10.

18.1.2 Classification of Occupancy

See 6.1.5 and 18.1.4.2.

18.1.3 Multiple Occupancies

18.1.3.1

Multiple occupancies shall be in accordance with 6.1.14.

18.1.3.2

Atrium walls in accordance with 6.1.14.4.6 shall be permitted to serve as part of the separation required by 6.1.14.4.1 for creating separated occupancies on a story-by-story basis, provided both of the following are met:

The provision is not used for occupancy separations involving industrial and storage occupancies.

Smoke partitions serving as atrium walls are not permitted to serve as enclosures for hazardous areas.

18.1.3.3

Sections of health care facilities shall be permitted to be classified as other occupancies in accordance with the separated occupancies provisions of 6.1.14.4 and either 18.1.3.4 or 18.1.3.5.

18.1.3.4\*

Sections of health care facilities shall be permitted to be classified as other occupancies, provided that they meet both of the following conditions:

They are not intended to provide services simultaneously for four or more inpatients for purposes of housing, treatment, or customary access by inpatients incapable of self-preservation.

They are separated from areas of health care occupancies by construction having a minimum 2-hour fire resistance rating in accordance with Chapter 8.

18.1.3.5 Contiguous Non-Health Care Occupancies

18.1.3.5.1\*

Ambulatory care facilities, medical clinics, and similar facilities that are contiguous to health care occupancies, but are primarily intended to provide outpatient services, shall be permitted to be classified as business occupancies or ambulatory health care facilities, provided that the facilities are separated from the health care occupancy by construction having a minimum 2-hour fire resistance rating, and the facility is not intended to provide services simultaneously for four or more inpatients who are incapable of self-preservation.

18.1.3.5.2

Ambulatory care facilities, medical clinics, and similar facilities that are contiguous to health care occupancies shall be permitted to be used for diagnostic and treatment services of inpatients who are capable of self-preservation.

18.1.3.6

Where separated occupancies provisions are used in accordance with either 18.1.3.4 or 18.1.3.5, the most stringent construction type shall be provided throughout the building, unless a 2-hour separation is provided in accordance with 8.2.1.3, in which case the construction type shall be determined as follows:

The construction type and supporting construction of the health care occupancy shall be based on the story on which it is located in the building in accordance with the provisions of 18.1.6 and Table 18.1.6.1.

The construction type of the areas of the building enclosing the other occupancies shall be based on the applicable occupancy chapters of this Code.

18.1.3.7

All means of egress from health care occupancies that traverse non-health care spaces shall conform to the requirements of this Code for health care occupancies, unless otherwise permitted by 18.1.3.8.

18.1.3.8

Exit through a horizontal exit into other contiguous occupancies that do not conform to health care egress provisions, but that do comply with requirements set forth in the appropriate occupancy chapter of this Code, shall be permitted, provided that both of the following criteria apply:

The occupancy does not contain high-hazard contents.

The horizontal exit complies with the requirements of 18.2.2.5.

18.1.3.9

Egress provisions for areas of health care facilities that correspond to other occupancies shall meet the corresponding requirements of this Code for such occupancies, and, where the clinical needs of the occupant necessitate the locking of means of egress, staff shall be present for the supervised release of occupants during all times of use.

18.1.3.10

Auditoriums, chapels, staff residential areas, or other occupancies provided in connection with health care facilities shall have means of egress provided in accordance with other applicable sections of this Code.

18.1.3.11

Any area with a hazard of contents classified higher than that of the health care occupancy and located in the same building shall be protected as required by 18.3.2.

18.1.3.12

Non-health-care-related occupancies classified as containing high-hazard contents shall not be permitted in buildings housing health care occupancies.

18.1.4 Definitions

18.1.4.1 General

For definitions, see Chapter 3, Definitions.

18.1.4.2 Special Definitions

The following is a list of special terms used in this chapter:

Ambulatory Health Care Occupancy. See 3.3.198.1.

Deep-Fat Frying. See 3.3.56.

Gross Floor Area (Health Care and Ambulatory Health Care Occupancies). See 3.3.22.2.3.

Hospital. See 3.3.152.

Limited Care Facility. See 3.3.93.2.

Nursing Home. See 3.3.150.2.

Self-Preservation Capability (Health Care and Ambulatory Health Care Occupancies). See 3.3.253.

18.1.5 Classification of Hazard of Contents

The classification of hazard of contents shall be as defined in Section 6.2.

18.1.6 Minimum Construction Requirements

18.1.6.1

Health care occupancies shall be limited to the building construction types specified in Table 18.1.6.1, unless otherwise permitted by 18.1.6.2 through 18.1.6.6. (See 8.2.1.)

Table 18.1.6.1 Construction Type Limitations

Construction Type Sprinklereda Total Number of Stories of Buildingb

1 2 3 ≥4

I(442) Yes X X X X

No NP NP NP NP

I(332) Yes X X X X

No NP NP NP NP

II(222) Yes X X X X

No NP NP NP NP

II(111) Yes X X X NP

No NP NP NP NP

II(000) Yes X NP NP NP

No NP NP NP NP

III(211) Yes X NP NP NP

No NP NP NP NP

III(200) Yes NP NP NP NP

No NP NP NP NP

IV(2HH) Yes X NPc,d NPc NPc

No NP NP NP NP

V(111) Yes X NP NP NP

No NP NP NP NP

V(000) Yes NP NP NP NP

No NP NP NP NP

X: Permitted. NP: Not permitted.

The total number of stories of the building is required to be determined as follows:

The total number of stories is to be counted starting with the level of exit discharge and ending with the highest occupiable story of the building.

Stories below the level of exit discharge are not counted as stories.

Interstitial spaces used solely for building or process systems directly related to the level above or below are not considered a separate story.

A mezzanine in accordance with 8.6.10 is not counted as a story.

aSprinklered throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7. (See 18.3.5.)

bBasements are not counted as stories.

cUp to and including four stories in height permitted for buildings complying with 4.5.6.1.1 of NFPA 220.

dUp to and including two stories in height permitted for buildings complying with 4.5.6.1.2 of NFPA 220.

18.1.6.2

Any building of Type I(442), Type I(332), Type II(222), or Type II(111) construction shall be permitted to include roofing systems involving combustible supports, decking, or roofing, provided that all of the following criteria are met:

The roof covering shall meet Class A requirements in accordance with ASTM E108, Standard Test Methods for Fire Tests of Roof Coverings, or UL 790, Test Methods for Fire Tests of Roof Coverings.

The roof shall be separated from all occupied portions of the building by a noncombustible floor assembly having not less than a 2-hour fire resistance rating that includes not less than 21/2 in. (63 mm) of concrete or gypsum fill.

The structural elements supporting the 2-hour fire-resistance-rated floor assembly specified in 18.1.6.2(2) shall be required to have only the fire-resistance-rating required of the building.

18.1.6.3

Any building of Type I(442), Type I(332), Type II(222), or Type II(111) construction shall be permitted to include roofing systems involving combustible supports, decking, or roofing, provided that all of the following criteria are met:

The roof covering shall meet Class A requirements in accordance with ASTM E108, Standard Test Methods for Fire Tests of Roof Coverings, or UL 790, Test Methods for Fire Tests of Roof Coverings.

The roof/ceiling assembly shall be constructed with fire-retardant-treated wood meeting the requirements of NFPA 220.

The roof/ceiling assembly shall have the required fire resistance rating for the type of construction.

18.1.6.4

Interior nonbearing walls in buildings of Type I or Type II construction shall be constructed of noncombustible or limited-combustible materials, unless otherwise permitted by 18.1.6.5.

18.1.6.5

Interior nonbearing walls required to have a fire resistance rating of 2 hours or less shall be permitted to be of fire-retardant-treated wood enclosed within noncombustible or limited-combustible materials, provided that such walls are not used as shaft enclosures.

18.1.6.6

All buildings with more than one level below the level of exit discharge shall have all such lower levels separated from the level of exit discharge by not less than Type II(111) construction.

18.1.7 Occupant Load

The occupant load, in number of persons for whom means of egress and other provisions are required, either shall be determined on the basis of the occupant load factors of Table 7.3.1.2 that are characteristic of the use of the space or shall be determined as the maximum probable population of the space under consideration, whichever is greater.

18.2 Means of Egress Requirements

18.2.1 General

Every aisle, passageway, corridor, exit discharge, exit location, and access shall be in accordance with Chapter 7, unless otherwise modified by 18.2.2 through 18.2.11.

18.2.2\* Means of Egress Components

18.2.2.1 Components Permitted

Components of means of egress shall be limited to the types described in 18.2.2.2 through 18.2.2.10.

18.2.2.2 Doors

18.2.2.2.1

Doors complying with 7.2.1 shall be permitted.

18.2.2.2.2

Locks shall not be permitted on patient sleeping room doors, unless otherwise permitted by one of the following:

Locking devices that restrict access to the room from the corridor and that are operable by staff from the corridor side shall be permitted, provided that such devices do not restrict egress from the room.

Locks complying with 18.2.2.2.5 shall be permitted.

18.2.2.2.3

Doors not located in a required means of egress shall be permitted to be subject to locking.

18.2.2.2.4

Doors within a required means of egress shall not be equipped with a latch or lock that requires the use of a tool or key from the egress side, unless otherwise permitted by one of the following:

Locks complying with 18.2.2.2.5 shall be permitted.

\*Delayed-egress electrical locking systems complying with 7.2.1.6.1 shall be permitted.

\*Sensor-release of electrical locking systems complying with 7.2.1.6.2 shall be permitted.

Elevator lobby exit access door locking in accordance with 7.2.1.6.4 shall be permitted.

18.2.2.2.5

Door-locking arrangements shall be permitted in accordance with either 18.2.2.2.5.1 or 18.2.2.2.5.2.

18.2.2.2.5.1\*

Door-locking arrangements shall be permitted where the clinical needs of patients require specialized security measures or where patients pose a security threat, provided that staff can readily unlock doors at all times in accordance with 18.2.2.2.6.

18.2.2.2.5.2\*

Door-locking arrangements shall be permitted where patient special needs require specialized protective measures for their safety, provided that all of the following criteria are met:

Staff can readily unlock doors at all times in accordance with 18.2.2.2.6.

A total (complete) smoke detection system is provided throughout the locked space in accordance with 9.6.2.9, or locked doors can be remotely unlocked at an approved, constantly attended location within the locked space.

\*The building is protected throughout by an approved, supervised automatic sprinkler system in accordance with 18.3.5.1.

The locks are electrical locks that fail safely so as to release upon loss of power to the device.

The locks release by independent activation of each of the following:

Activation of the smoke detection system required by 18.2.2.2.5.2(2)

Waterflow in the automatic sprinkler system required by 18.2.2.2.5.2(3)

Hardware for new electric lock installations is listed in accordance with UL 294, Access Control System Units.

18.2.2.2.6

Doors that are located in the means of egress and are permitted to be locked under other provisions of 18.2.2.2.5 shall comply with both of the following:

Provisions shall be made for the rapid removal of occupants by means of one of the following:

Remote control of locks from within the locked smoke compartment

Keying of all locks to keys carried by staff at all times

Other such reliable means available to the staff at all times

Only one locking device shall be permitted on each door.

18.2.2.2.7\*

Doors permitted to be locked in accordance with 18.2.2.2.5.1 shall be permitted to have murals on the egress doors to disguise the doors, provided all of the following are met:

Staff can readily unlock the doors at all times in accordance with 18.2.2.2.6.

\*The door-releasing hardware, where provided, is readily accessible for staff use.

\*Door leaves, windows, and door hardware, other than door-releasing hardware, are permitted to be covered by the murals.

The murals do not impair the operation of the doors.

The location and operation of doors disguised with murals are identified in the fire safety plan and are included in staff training.

Any modification to a fire door complies with NFPA 80.

18.2.2.2.8\*

Any door in an exit passageway, stairway enclosure, horizontal exit, smoke barrier, or hazardous area enclosure (except boiler rooms, heater rooms, and mechanical equipment rooms) shall be permitted to be held open only by an automatic release device that complies with 7.2.1.8.2. The automatic sprinkler system and the fire alarm system, and the systems required by 7.2.1.8.2, shall be arranged to initiate the closing action of all such doors throughout the smoke compartment or throughout the entire facility.

18.2.2.2.9

Where doors in a stair enclosure are held open by an automatic release device as permitted in 18.2.2.2.8, initiation of a door-closing action on any level shall cause all doors at all levels in the stair enclosure to close.

18.2.2.2.10

Stairs that serve an occupiable story that is more than 75 ft (23 m) above the level of fire department vehicle access shall comply with the re-entry provisions of 7.2.1.5.7.

18.2.2.2.11

Sliding doors shall be permitted in accordance with 18.2.2.2.11.1 or 18.2.2.2.11.2.

18.2.2.2.11.1

Special-purpose horizontally sliding accordion or folding door assemblies in accordance with 7.2.1.13, that are not automatic-closing shall be limited to a single leaf and shall have a latch or other mechanism that ensures that the doors will not rebound into a partially open position if forcefully closed.

18.2.2.2.11.2

Horizontal-sliding doors serving an occupant load of fewer than 10 shall be permitted, provided that all of the following criteria are met:

The area served by the door has no high-hazard contents.

The door is readily operable from either side without special knowledge or effort.

The force required to operate the door in the direction of door travel is not more than 30 lbf (133 N) to set the door in motion and is not more than 15 lbf (67 N) to close the door or open it to the minimum required width.

The door assembly complies with any required fire protection rating and, where rated, is self-closing or automatic-closing by means of smoke detection in accordance with 7.2.1.8 and is installed in accordance with NFPA 80.

Where corridor doors are required to latch, the doors are equipped with a latch or other mechanism that ensures that the doors will not rebound into a partially open position if forcefully closed.

18.2.2.3 Stairs

Stairs complying with 7.2.2 shall be permitted.

18.2.2.4 Smokeproof Enclosures

Smokeproof enclosures complying with 7.2.3 shall be permitted.

18.2.2.5 Horizontal Exits

Horizontal exits complying with 7.2.4 and the modifications of 18.2.2.5.1 through 18.2.2.5.7 shall be permitted.

18.2.2.5.1

Accumulation space shall be provided in accordance with 18.2.2.5.1.1 and 18.2.2.5.1.2.

18.2.2.5.1.1

Not less than 30 net ft2 (2.8 net m2) per patient in a hospital or nursing home, or not less than 15 net ft2 (1.4 net m2) per resident in a limited care facility, shall be provided within the aggregated area of corridors, patient rooms, treatment rooms, lounge or dining areas, and other similar areas on each side of the horizontal exit.

18.2.2.5.1.2

On stories not housing bedridden or litterborne patients, not less than 6 net ft2 (0.56 net m2) per occupant shall be provided on each side of the horizontal exit for the total number of occupants in adjoining compartments.

18.2.2.5.2

The total egress capacity of the other exits (stairs, ramps, doors leading outside the building) shall not be reduced below one-third of that required for the entire area of the building.

18.2.2.5.3

A single door shall be permitted in a horizontal exit if all of the following conditions apply:

The exit serves one direction only.

Such door is a swinging door or a special-purpose horizontally sliding accordion or folding door assembly complying with 7.2.1.13.

The door is not less than 411/2 in. (1055 mm) in clear width.

18.2.2.5.4

A horizontal exit involving a corridor 8 ft (2440 mm) or more in width and serving as a means of egress from both sides of the doorway shall have the opening protected by a pair of swinging doors arranged to swing in opposite directions from each other, with each door having a clear width of not less than 411/2 in. (1055 mm), or by a special-purpose horizontally sliding accordion or folding door assembly that complies with 7.2.1.13 and provides a clear width of not less than 6 ft 11 in. (2110 mm).

18.2.2.5.5

A horizontal exit involving a corridor 6 ft (1830 mm) or more in width and serving as a means of egress from both sides of the doorway shall have the opening protected by a pair of swinging doors, arranged to swing in opposite directions from each other, with each door having a clear width of not less than 32 in. (810 mm), or by a special-purpose horizontally sliding accordion or folding door assembly that complies with 7.2.1.13 and provides a clear width of not less than 64 in. (1625 mm).

18.2.2.5.6

An approved vision panel shall be required in each horizontal exit door.

18.2.2.5.7

Center mullions shall be prohibited in horizontal exit door openings.

18.2.2.6 Ramps

18.2.2.6.1

Ramps complying with 7.2.5 shall be permitted.

18.2.2.6.2

Ramps enclosed as exits shall be of sufficient width to provide egress capacity in accordance with 18.2.3.

18.2.2.7 Exit Passageways

Exit passageways complying with 7.2.6 shall be permitted.

18.2.2.8 Fire Escape Ladders

Fire escape ladders complying with 7.2.9 shall be permitted.

18.2.2.9 Alternating Tread Devices

Alternating tread devices complying with 7.2.11 shall be permitted.

18.2.2.10 Areas of Refuge

Areas of refuge used as part of a required accessible means of egress shall comply with 7.2.12.

18.2.3 Capacity of Means of Egress

18.2.3.1

The capacity of means of egress shall be in accordance with Section 7.3.

18.2.3.2 Reserved

18.2.3.3 Reserved

18.2.3.4\*

Diagram

Aisles, corridors, and ramps required for exit access in a hospital or nursing home shall be not less than 8 ft (2440 mm) in clear and unobstructed width, unless otherwise permitted by one of the following:

\*Aisles, corridors, and ramps in adjunct areas not intended for the housing, treatment, or use of inpatients shall be not less than 44 in. (1120 mm) in clear and unobstructed width.

\*Projections from the corridor wall shall be permitted by one of the following:

Noncontinuous projections not more than 4 in. (100 mm) from the corridor wall, positioned not less than 38 in. (965 mm) above the floor, shall be permitted.

Noncontinuous projections of more than 4 in. (100 mm) but not more than 6 in. (150 mm) from the corridor wall shall be permitted provided that both of the following are met:

The projecting item is positioned not less than 38 in. (965 mm) above the floor.

A vertical extension is provided below the projection such that the extension has a leading edge that is within 4 in. (100 mm) of the leading edge of the projection at a point that is 27 in. (685 mm) maximum above the floor.

\*Exit access within a room or suite of rooms complying with the requirements of 18.2.5 shall be permitted.

Projections into the required width shall be permitted for wheeled equipment, provided that all of the following conditions are met:

The wheeled equipment does not reduce the clear and unobstructed corridor width to less than 60 in. (1525 mm).

The health care occupancy fire safety plan and training program address the relocation of the wheeled equipment during a fire or similar emergency.

\*The wheeled equipment is limited to the following:

Equipment in use and carts in use

Medical emergency equipment not in use

Patient lift and transport equipment

\*Where the corridor width is at least 8 ft (2440 mm), projections into the required width shall be permitted for fixed furniture, provided that all of the following conditions are met:

The fixed furniture is securely attached to the floor or to the wall.

The fixed furniture does not reduce the clear and unobstructed corridor width to less than 6 ft (1830 mm), except as permitted by 18.2.3.4(2).

The fixed furniture is located only on one side of the corridor.

The fixed furniture is grouped such that each grouping does not exceed an area of 50 ft2 (4.6 m2).

The fixed furniture groupings addressed in 18.2.3.4(5)(d) are separated from each other by a distance of at least 10 ft (3050 mm).

\*The fixed furniture is located so as to not obstruct access to building service and fire protection equipment.

Corridors throughout the smoke compartment are protected by an electrically supervised automatic smoke detection system in accordance with 18.3.4, or the fixed furniture spaces are arranged and located to allow direct supervision by the facility staff from a nurses' station or similar space.

\*Cross-corridor door openings in corridors with a required minimum width of 8 ft (2440 mm) shall have a clear width of not less than 6 ft 11 in. (2110 mm) for pairs of doors or a clear width of not less than 411/2 in. (1055 mm) for a single door.

Nursing home corridors shall be permitted to be not less than 6 ft (1830 mm) wide in smoke compartments housing not more than 30 patients.

Cross-corridor door openings in corridors with a required minimum width of 6 ft (1830 mm) shall have a clear width of not less than 64 in. (1625 mm) for pairs of doors or a clear width of not less than 411/2 in. (1055 mm) for a single door.

Where the corridor width is at least 8 ft (2440 mm), projections into the required width shall be permitted for emergency stair travel devices, provided that all of the following conditions are met:

These devices do not reduce the clear and unobstructed corridor width to less than 72 in. (1830 mm).

These devices are secured to the wall.

Where furniture is placed in the corridor in accordance with 18.2.3.4(5), the emergency stair travel devices are placed on the same side of the corridor as the furniture.

These devices are located so as to not obstruct access to building service and fire protection equipment.

These devices are grouped such that each grouping does not exceed a projected floor area of 12 ft2 (3.7 m2).

The groupings addressed in 18.2.3.4(9)(e) are separated from each other by a distance of at least 10 ft (3050 mm).

Self-retracting seats fixed to the wall shall be permitted provided all of the following are met:

The seats comply with ASTM F851, Standard Test Method for Self-Rising Seat Mechanisms.

The seats automatically return to their normally retracted position, at which time the seat projection into the means of egress complies with 7.3.2.2 and does not interfere with the means of egress.

The self-retracting seats are normally in the retracted position and project not more than 4 in. (100 mm) from the wall.

Exposed upholstery components, where provided, meet the requirements for Class I when tested in accordance with NFPA 260.

Upcodes Diagrams

18.2.3.5

Aisles, corridors, and ramps required for exit access in a limited care facility or hospital for psychiatric care shall be not less than 6 ft (1830 mm) in clear and unobstructed width, unless otherwise permitted by one of the following:

\*Aisles, corridors, and ramps in adjunct areas not intended for the housing, treatment, or use of inpatients shall be not less than 44 in. (1120 mm) in clear and unobstructed width.

\*Projections from the corridor wall shall be permitted by one of the following:

Noncontinuous projections not more than 4 in. (100 mm) from the corridor wall, positioned not less than 38 in. (965 mm) above the floor, shall be permitted.

Noncontinuous projections of more than 4 in. (100 mm) but not more than 6 in. (150 mm) from the corridor wall shall be permitted provided that both of the following are met:

The projecting item is positioned not less than 38 in. (965 mm) above the floor.

A vertical extension is provided below the projection such that the extension has a leading edge that is within 4 in. (100 mm) of the leading edge of the projection at a point that is 27 in. (685 mm) maximum above the floor.

Noncontinuous projections not more than 6 in. (150 mm) from the corridor wall, positioned not less than 38 in. (965 mm) above the floor, shall be permitted.

\*Exit access within a room or suite of rooms complying with the requirements of 18.2.5 shall be permitted.

Projections into the required width shall be permitted for wheeled equipment, provided that all of the following conditions are met:

The wheeled equipment does not reduce the clear and unobstructed corridor width to less than 60 in. (1525 mm).

The health care occupancy fire safety plan and training program address the relocation of the wheeled equipment during a fire or similar emergency.

\*The wheeled equipment is limited to the following:

Equipment in use and carts in use

Medical emergency equipment not in use

Patient lift and transport equipment

\*Cross-corridor door openings in corridors with a required minimum width of 6 ft (1830 mm) shall have a clear width of not less than 64 in. (1625 mm) for pairs of doors or a clear width of not less than 32 in. (810 mm) for a single door.

Where the corridor width is at least 8 ft (2440 mm), projections into the required width shall be permitted for emergency stair travel devices, provided that all of the following conditions are met:

These devices do not reduce the clear and unobstructed corridor width to less than 72 in. (1830 mm).

These devices are secured to the wall.

Where furniture is placed in the corridor in accordance with 18.2.3.4(5), the emergency stair travel devices are placed on the same side of the corridor as the furniture.

These devices are located so as to not obstruct access to building service and fire protection equipment.

These devices are grouped such that each grouping does not exceed a projected floor area of 12 ft2 (3.7 m2).

The groupings addressed in 18.2.3.5(7)(e) are separated from each other by a distance of at least 10 ft (3050 mm).

Self-retracting seats fixed to the wall shall be permitted provided all of the following are met:

The seats comply with ASTM F851, Standard Test Method for Self-Rising Seat Mechanisms.

The seats automatically return to their normally retracted position, at which time the seat projection into the means of egress complies with 7.3.2.2 and does not interfere with the means of egress.

The self-retracting seats are normally in the retracted position and project not more than 4 in. (100 mm) from the wall.

Exposed upholstery components, where provided, meet the requirements for Class I when tested in accordance with NFPA 260.

18.2.3.6

The minimum clear width for doors in the means of egress from sleeping rooms; diagnostic and treatment areas, such as x-ray, surgery, or physical therapy; and nursery rooms shall be as follows:

Hospitals and nursing homes — 411/2 in. (1055 mm)

Psychiatric hospitals and limited care facilities— 32 in. (810 mm)

18.2.3.7

The requirements of 18.2.3.6 shall not apply where otherwise permitted by one of the following:

Doors that are located so as not to be subject to use by any health care occupant shall be not less than 32 in. (810 mm) in clear width.

Doors in exit stair enclosures shall be not less than 32 in. (810 mm) in clear width.

Doors serving newborn nurseries shall be not less than 32 in. (810 mm) in clear width.

Where a pair of doors is provided, all of the following criteria shall be met:

Not less than one of the doors shall provide not less than a 32 in. (810 mm) clear width opening.

A rabbet, bevel, or astragal shall be provided at the meeting edge.

The inactive door leaf shall have an automatic flush bolt to provide positive latching.

18.2.4 Number of Means of Egress

18.2.4.1

The number of means of egress shall be in accordance with Section 7.4.

18.2.4.2

Not less than two exits shall be provided on every story.

18.2.4.3

Not less than two separate exits shall be accessible from every part of every story, except where rooms are not required to have a door leading directly to the exit access corridor, as permitted by 18.2.5.6.3.

18.2.4.4\* Exits From Smoke Compartments

18.2.4.4.1

Not less than two exits shall be accessible from each smoke compartment, and egress shall be permitted through an adjacent compartment(s), provided that the two required egress paths are arranged so that both do not pass through the same adjacent smoke compartment.

18.2.4.4.2

A door in a smoke barrier shall not serve as the only exit access from any space in a smoke compartment.

18.2.5 Arrangement of Means of Egress

18.2.5.1 General

Arrangement of means of egress shall comply with Section 7.5.

18.2.5.2 Common Path of Travel

Common path of travel shall not exceed 100 ft (30 m).

18.2.5.3 Dead-End Corridors

Diagram

Dead-end corridors shall not exceed 30 ft (9.1 m).

UpCodes Diagrams

P

Dead End Corridors (NFPA)

18.2.5.4\* Intervening Rooms or Spaces

Every corridor shall provide access to not less than two approved exits in accordance with Sections 7.4 and 7.5 without passing through any intervening rooms or spaces other than corridors or lobbies.

18.2.5.5 Two Means of Egress

18.2.5.5.1

Sleeping rooms of more than 1000 ft2 (93 m2) gross shall have not less than two exit access doors remotely located from each other.

18.2.5.5.2

Nonsleeping rooms of more than 2500 ft2 (230 m2) gross shall have not less than two exit access doors remotely located from each other.

18.2.5.6 Corridor Access

18.2.5.6.1\*

Every habitable room shall have an exit access door leading directly to an exit access corridor, unless otherwise provided in 18.2.5.6.2, 18.2.5.6.3, and 18.2.5.6.4.

18.2.5.6.2

Exit access from a patient sleeping room with not more than eight patient beds shall be permitted to pass through one intervening room to reach an exit access corridor, provided that the intervening room is equipped with an approved automatic smoke detection system in accordance with Section 9.6.

18.2.5.6.3

Rooms having an exit door opening directly to the outside from the room at the finished ground level shall not be required to have an exit access door leading directly to an exit access corridor.

18.2.5.6.4

Rooms within suites complying with 18.2.5.7 shall not be required to have an exit access door leading directly to an exit access corridor.

18.2.5.7 Health Care Suites

18.2.5.7.1 General

18.2.5.7.1.1 Suite Permission

Suites complying with 18.2.5.7 shall be permitted to be used to meet the corridor access requirements of 18.2.5.6.

18.2.5.7.1.2\* Suite Separation

Suites shall be separated from the remainder of the building, and from other suites, by walls and doors meeting the requirements of 18.3.6.2 through 18.3.6.5.

18.2.5.7.1.3 Suite Hazardous Contents Areas

(A)\*

Intervening rooms shall not be hazardous areas as defined by 18.3.2.

(B)

Hazardous areas within a suite shall be separated from the remainder of the suite in accordance with 18.3.2.1, unless otherwise provided in 18.2.5.7.1.3(C).

(C)\*

Hazardous areas within a suite shall not be required to be separated from the remainder of the suite where complying with all of the following:

The suite is primarily a hazardous area.

The suite is protected by an approved automatic smoke detection system in accordance with Section 9.6.

The suite is separated from the rest of the health care facility as required for a hazardous area by 18.3.2.1.

18.2.5.7.1.4 Suite Subdivision

The subdivision of suites shall be by means of noncombustible or limited-combustible partitions or partitions constructed with fire-retardant-treated wood enclosed with noncombustible or limited-combustible materials, and such partitions shall not be required to be fire rated.

18.2.5.7.2 Sleeping Suites

Sleeping suites shall be in accordance with the following:

Patient care sleeping suites shall comply with the provisions of 18.2.5.7.2.1 through 18.2.5.7.2.4.

Sleeping suites not for patient care shall comply with the provisions of 18.2.5.7.4.

18.2.5.7.2.1 Patient Care Sleeping Suite Supervision

(A)

Patient care sleeping suites shall be provided with constant staff supervision within the suite.

(B)\*

Patient care sleeping suites shall be arranged in accordance with one of the following:

\*Patient sleeping rooms within patient care sleeping suites shall provide one of the following:

The patient sleeping rooms shall be arranged to allow for direct supervision from a normally attended location within the suite, such as is provided by glass walls, and cubicle curtains shall be permitted.

Any patient sleeping rooms without the direct supervision required by 18.2.5.7.2.1(B)(1)(a) shall be provided with smoke detection in accordance with Section 9.6 and 18.3.4.

Patient care sleeping suites shall be provided with a total (complete) coverage automatic smoke detection system in accordance with 9.6.2.9 and 18.3.4.

18.2.5.7.2.2 Patient Care Sleeping Suite Means of Egress

(A)\*

Patient care sleeping suites shall have exit access to a corridor complying with 18.3.6 or to a horizontal exit, directly from the suite.

(B)

Patient care sleeping suites of more than 1000 ft2 (93 m2) gross shall have not less than two exit access doors remotely located from each other.

(C)\*

For suites requiring two exit access doors, one of the exit access doors from the suite shall be permitted to be to one of the following:

An exit stair

An exit passageway

An exit door to the exterior

Another suite, provided that the separation between the suites complies with the corridor requirements of 18.3.6.2 through 18.3.6.5

18.2.5.7.2.3 Patient Care Sleeping Suite Maximum Size

(A)

Reserved.

(B)

Patient care sleeping suites shall not exceed 7500 ft2 (700 m2) gross floor area, unless otherwise provided in 18.2.5.7.2.3(C).

(C)

Patient care sleeping suites greater than 7500 ft2 (700 m2) gross floor area and not exceeding 10,000 ft2 (930 m2) gross floor area shall be permitted where both of the following are provided in the suite:

\*Direct visual supervision in accordance with 18.2.5.7.2.1(B)(1)(a)

Total (complete) coverage automatic smoke detection in accordance with 9.6.2.9 and 18.3.4

18.2.5.7.2.4 Patient Care Sleeping Suite Travel Distance

(A)

Travel distance between any point in a patient care sleeping suite and an exit access door to another suite, an exit access corridor door, or a horizontal exit door from that suite shall not exceed 100 ft (30 m).

(B)

Travel distance between any point in a patient care sleeping suite and an exit shall not exceed 200 ft (61 m).

18.2.5.7.3 Patient Care Nonsleeping Suites

Nonsleeping suites shall be in accordance with the following:

Nonsleeping suites for patient care shall comply with the provisions of 18.2.5.7.3.1 through 18.2.5.7.3.3.

Nonsleeping suites not for patient care shall comply with the provisions of 18.2.5.7.4.

18.2.5.7.3.1 Patient Care Nonsleeping Suite Means of Egress

(A)

Patient care nonsleeping suites shall have exit access to a corridor complying with 18.3.6 or to a horizontal exit, directly from the suite.

(B)

Patient care nonsleeping suites of more than 2500 ft2 (230 m2) gross shall have not less than two exit access doors remotely located from each other.

(C)\*

For suites requiring two exit access doors, one of the exit access doors shall be permitted to be to one of the following:

An exit stair

An exit passageway

An exit door to the exterior

Another suite, provided that the separation between the suites complies with the corridor requirements of 18.3.6.2 through 18.3.6.5.

18.2.5.7.3.2 Patient Care Nonsleeping Suite Maximum Size

(A)

Nonsleeping suites shall not exceed 12,500 ft2 (1160 m2) gross floor area, unless otherwise provided in 18.2.5.7.3.2(B).

(B)

Nonsleeping suites greater than 12,500 ft2 (1160 m2) gross floor area and not exceeding 15,000 ft2 (1390 m2) gross floor area shall be permitted where provided with total (complete) coverage automatic smoke detection in accordance with 9.6.2.9 and 18.3.4.

18.2.5.7.3.3 Patient Care Non Sleeping Suite Travel Distance

(A)

Travel distance within a nonsleeping suite to an exit access door to another suite, an exit access corridor door, or a horizontal exit door from the suite shall not exceed 100 ft (30 m).

(B)

Travel distance between any point in a nonsleeping suite and an exit shall not exceed 200 ft (61 m).

18.2.5.7.4 Non-Patient-Care Suites

The egress provisions for non-patient-care suites shall be in accordance with the primary use and occupancy of the space.

18.2.6 Travel Distance to Exits

18.2.6.1

Diagram

Travel distance shall be measured in accordance with Section 7.6.

UpCodes Diagrams

P

Measurement of Travel Distance (NFPA 101)

18.2.6.2

Travel distance shall comply with 18.2.6.2.1 through 18.2.6.2.4.

18.2.6.2.1

The travel distance between any point in a room and an exit shall not exceed 200 ft (61 m).

18.2.6.2.2 Reserved

18.2.6.2.3

The travel distance between any point in a health care sleeping room and an exit access door in that room shall not exceed 50 ft (15 m).

18.2.6.2.4

The travel distance within suites shall be in accordance with 18.2.5.7.

18.2.7 Discharge From Exits

Discharge from exits shall be arranged in accordance with Section 7.7.

18.2.8 Illumination of Means of Egress

Means of egress shall be illuminated in accordance with Section 7.8.

18.2.9 Emergency Lighting

18.2.9.1

Emergency lighting shall be provided in accordance with Section 7.9.

18.2.9.2

Buildings equipped with, or in which patients require the use of, life-support systems (see 18.5.1.3) shall have emergency lighting equipment supplied by the life safety branch of the electrical system as described in NFPA 99.

18.2.10 Marking of Means of Egress

18.2.10.1

Means of egress shall have signs in accordance with Section 7.10, unless otherwise permitted by 18.2.10.3 or 18.2.10.4.

18.2.10.2 Reserved

18.2.10.3

Where the path of egress travel is obvious, signs shall not be required at gates in outside secured areas.

18.2.10.4

Access to exits within rooms or sleeping suites shall not be required to be marked where staff is responsible for relocating or evacuating occupants.

18.2.10.5

Illumination of required exit and directional signs in buildings equipped with, or in which patients use, life-support systems (see 18.5.1.3) shall be provided as follows:

Illumination shall be supplied by the life safety branch of the electrical system as described in NFPA 99.

Self-luminous exit signs complying with 7.10.4 shall be permitted.

18.2.11 Special Means of Egress Features. (Reserved)

18.3 Protection

18.3.1 Protection of Vertical Openings

Any vertical opening shall be enclosed or protected in accordance with Section 8.6, unless otherwise modified by 18.3.1.1 through 18.3.1.9.

18.3.1.1 Reserved

18.3.1.2

Unprotected vertical openings in accordance with 8.6.9.1 shall be permitted.

18.3.1.3

Unenclosed vertical openings in accordance with 8.6.9.2 connecting not more than two contiguous stories shall be permitted.

18.3.1.4

Subparagraph 8.6.7(1)(b) shall not apply to patient sleeping and treatment rooms.

18.3.1.5

Multilevel patient sleeping areas in psychiatric facilities shall be permitted without enclosure protection between levels, provided that all of the following conditions are met:

The entire normally occupied area, including all communicating floor levels, is sufficiently open and unobstructed so that a fire or other dangerous condition in any part is obvious to the occupants or supervisory personnel in the area.

The egress capacity provides simultaneously for all the occupants of all communicating levels and areas, with all communicating levels in the same fire area being considered as a single floor area for purposes of determination of required egress capacity.

The height between the highest and lowest finished floor levels does not exceed 13 ft (3960 mm), and the number of levels is permitted to be unrestricted.

18.3.1.6

Unprotected openings in accordance with 8.6.6 shall not be permitted.

18.3.1.7 Reserved

18.3.1.8

A door in a stair enclosure shall be self-closing and shall normally be kept in the closed position, unless otherwise permitted by 18.3.1.9.

18.3.1.9

Doors in stair enclosures shall be permitted to be held open under the conditions specified by 18.2.2.2.7 and 18.2.2.2.8.

18.3.2 Protection From Hazards

18.3.2.1 Hazardous Areas

18.3.2.1.1

Any hazardous areas shall be protected in accordance with Section 8.7, and the areas addressed in 18.3.2.1.2 and 18.3.2.1.3 shall be protected as indicated.

18.3.2.1.2

The following areas shall be considered hazardous areas and shall be protected by fire barriers having a minimum 1-hour fire resistance rating in accordance with Section 8.3:

Boiler and fuel-fired heater rooms

Central/bulk laundries larger than 100 ft2 (9.3 m2)

Paint shops employing hazardous substances and materials in quantities less than those that would be classified as a severe hazard

Physical plant maintenance shops

Rooms with soiled linen in volume exceeding 64 gal (242 L)

Rooms with collected trash in volume exceeding 64 gal (242 L)

Storage rooms larger than 100 ft2 (9.3 m2) and storing combustible material

18.3.2.1.3

The following areas shall be considered hazardous areas and shall be protected by smoke partitions in accordance with Section 8.4:

Laboratories employing flammable or combustible materials in quantities less than those that would be considered a severe hazard

Storage rooms larger than 50 ft2 (4.6 m2) but not exceeding 100 ft2 (9.3 m2) and storing combustible material

18.3.2.2 Laboratories

Laboratories in which chemicals are handled or stored shall comply with NFPA 45.

18.3.2.3 Hyperbaric Chambers

Health care occupancies housing hyperbaric chambers shall comply with 8.7.5.

18.3.2.4 Medical Gas

Areas where medical gas is stored or administered, and the operation, testing, and maintenance of medical gases shall be in accordance with NFPA 99.

18.3.2.5 Cooking Facilities

18.3.2.5.1

Cooking facilities shall be protected in accordance with 9.2.3, unless otherwise permitted by 18.3.2.5.2, 18.3.2.5.3, or 18.3.2.5.4.

18.3.2.5.2\*

Where residential cooking equipment is used for food warming or limited cooking, the equipment shall not be required to be protected in accordance with 9.2.3, and the presence of the equipment shall not require the area to be protected as a hazardous area.

18.3.2.5.3\*

Within a smoke compartment, where residential or commercial cooking equipment is used to prepare meals for 30 or fewer persons, one cooking facility shall be permitted to be open to the corridor, provided that all of the following conditions are met:

The portion of the health care facility served by the cooking facility is limited to 30 beds and is separated from other portions of the health care facility by a smoke barrier constructed in accordance with 18.3.7.3, 18.3.7.6, and 18.3.7.8.

The cooktop or range is equipped with a range hood of a width at least equal to the width of the cooking surface, with grease baffles or other grease-collecting and clean-out capability.

\*The hood systems have a minimum airflow of 500 cfm (14,000 L/min).

The hood systems that are not ducted to the exterior additionally have a charcoal filter to remove smoke and odor.

The cooktop or range complies with all of the following:

The cooktop or range is protected with a fire suppression system listed in accordance with UL 300, Fire Testing of Fire Extinguishing Systems for Protection of Commercial Cooking Equipment, or is tested and meets all requirements of UL 300A, Extinguishing System Units for Residential Range Top Cooking Surfaces, in accordance with the applicable testing document's scope.

A manual release of the extinguishing system is provided in accordance with Section 10.5 of NFPA 96.

An interlock is provided to turn off all sources of fuel and electrical power to the cooktop or range when the suppression system is activated.

\*The use of solid fuel for cooking is prohibited.

Deep-fat frying is prohibited

Portable fire extinguishers in accordance with NFPA 96 are located in all kitchen areas.

\*A switch meeting all of the following is provided:

A locked switch, or a switch located in a restricted location, is provided within the cooking facility that deactivates the cooktop or range.

The switch is used to deactivate the cooktop or range whenever the kitchen is not under staff supervision.

The switch is on a timer, not exceeding a 120-minute capacity, that automatically deactivates the cooktop or range, independent of staff action.

Procedures for the use, inspection, testing, and maintenance of the cooking equipment are in accordance with Chapter 11 of NFPA 96 and the manufacturer's instructions are followed.

\*Not less than two AC-powered photoelectric smoke alarms with battery backup, interconnected in accordance with 9.6.2.10.4, and equipped with a silence feature are located not closer than 20 ft (6.1 m) and not further than 25 ft (7.6 m) from the cooktop or range.

\*The smoke alarms required by 18.3.2.5.3(11) are permitted to be located outside the kitchen area where such placement is necessary for compliance with the 20 ft (7.6 m) minimum distance criterion.

\*A single system smoke detector is permitted to be installed in lieu of the smoke alarms required in 18.3.2.5.3(11) provided the following criteria are met:

The detector is located not closer than 20 ft (6.1 m) and not further than 25 ft (7.6 m) from the cooktop or range.

The detector is permitted to initiate a local audible alarm signal only.

The detector is not required to initiate a building-wide occupant notification signal.

The detector is not required to notify emergency forces.

The local audible signal initiated by the detector is permitted to be silenced and reset by a button on the detector or by a switch installed within 10 ft (3.0 m) of the system smoke detector.

System smoke detectors that are required to be installed in corridors or spaces open to the corridor by other sections of this chapter are not used to meet the requirements of 18.3.2.5.3(11) and are located not closer than 25 ft (7.6 m) to the cooktop or range.

18.3.2.5.4\*

Within a smoke compartment, residential or commercial cooking equipment that is used to prepare meals for 30 or fewer persons shall be permitted, provided that the cooking facility complies with all of the following conditions:

The space containing the cooking equipment is not a sleeping room.

The space containing the cooking equipment is separated from the corridor by partitions complying with 18.3.6.2 through 18.3.6.5.

The requirements of 18.3.2.5.3(1) through 18.3.2.5.3(10) are met.

18.3.2.5.5\*

Where cooking facilities are protected in accordance with 9.2.3, the presence of the cooking equipment shall not cause the room or space housing the equipment to be classified as a hazardous area with respect to the requirements of 18.3.2.1, and the room or space shall not be permitted to be open to the corridor.

18.3.2.6 Heliports

Buildings that house health care occupancies, as indicated in 18.1.1.1.4, and have rooftop heliports shall be protected in accordance with NFPA 418.

18.3.2.7 Hazardous Materials

Where hazardous materials are stored, used, or handled, the provisions of 8.7.3.1 shall apply.

18.3.3 Interior Finish

18.3.3.1 General

Interior finish shall be in accordance with Section 10.2.

18.3.3.2\* Interior Wall and Ceiling Finish

Interior wall and ceiling finish materials complying with Section 10.2 shall be permitted throughout if Class A, except as indicated in 18.3.3.2.1 or 18.3.3.2.2.

18.3.3.2.1

Walls and ceilings shall be permitted to have Class A or Class B interior finish in individual rooms having a capacity not exceeding four persons.

18.3.3.2.2

Corridor wall finish not exceeding 48 in. (1220 mm) in height that is restricted to the lower half of the wall shall be permitted to be Class A or Class B.

18.3.3.3 Interior Floor Finish

18.3.3.3.1

Interior floor finish shall comply with Section 10.2.

18.3.3.3.2

Interior floor finish in exit enclosures and exit access corridors and spaces not separated from them by walls complying with 18.3.6 shall be Class I or Class II.

18.3.3.3.3

Interior floor finish shall comply with 10.2.7.1 or 10.2.7.2, as applicable.

18.3.4 Detection, Alarm, and Communications Systems

18.3.4.1 General

Health care occupancies shall be provided with a fire alarm system in accordance with Section 9.6.

18.3.4.2\* Initiation

18.3.4.2.1

Initiation of the required fire alarm systems shall be by manual means in accordance with 9.6.2 and by means of any required sprinkler system waterflow alarms, detection devices, or detection systems, unless otherwise permitted by 18.3.4.2.2 and 18.3.4.2.3.

18.3.4.2.2

Manual fire alarm boxes in patient sleeping areas shall not be required at exits if located at all nurses' control stations or other continuously attended staff location, provided that both of the following criteria are met:

Such manual fire alarm boxes are visible and continuously accessible.

Travel distances required by 9.6.2.5 are not exceeded.

18.3.4.2.3

The system smoke detector installed in accordance with 18.3.2.5.3(13) shall not be required to initiate the fire alarm system.

18.3.4.3 Notification

Positive alarm sequence in accordance with 9.6.3.5 shall be permitted.

18.3.4.3.1 Occupant Notification

Occupant notification shall be accomplished automatically in accordance with 9.6.3, unless otherwise modified by the following:

Paragraph 9.6.3.2.3 shall not be permitted to be used.

\*Where the private operating mode in accordance with NFPA 72 is used, alarm notification appliances shall not be required in patient care spaces where alarm notification adversely affects patient care.

The provision of 18.3.2.5.3(13)(c) shall be permitted to be used.

18.3.4.3.2 Emergency Forces Notification

18.3.4.3.2.1

Emergency forces notification shall be accomplished in accordance with 9.6.4, except that the provision of 18.3.2.5.3(13)(d) shall be permitted to be used.

18.3.4.3.2.2 Reserved

18.3.4.3.3 Annunciation and Annunciation Zoning

18.3.4.3.3.1

Annunciation and annunciation zoning shall be provided in accordance with 9.6.8, unless otherwise permitted by 18.3.4.3.3.2 or 18.3.4.3.3.3.

18.3.4.3.3.2

The alarm zone shall be permitted to coincide with the permitted area for smoke compartments.

18.3.4.3.3.3

The provision of 9.6.8.4.5, which permits sprinkler system waterflow to be annunciated as a single building zone, shall be prohibited.

18.3.4.4 Emergency Control Functions

Operation of any activating device in the required fire alarm system shall be arranged to accomplish automatically any control functions to be performed by that device. (See 9.6.6.)

18.3.4.5 Detection

18.3.4.5.1 General

Detection systems, where required, shall be in accordance with Section 9.6.

18.3.4.5.2 Detection in Spaces Open to Corridors

See 18.3.6.1.

18.3.4.5.3\* Nursing Homes

An approved automatic smoke detection system shall be installed in corridors throughout smoke compartments containing patient sleeping rooms and in spaces open to corridors as permitted in nursing homes by 18.3.6.1, unless otherwise permitted by one of the following:

Corridor systems shall not be required where each patient sleeping room is protected by an approved smoke detection system.

Corridor systems shall not be required where patient room doors are equipped with automatic door-closing devices with integral smoke detectors on the room side installed in accordance with their listing, provided that the integral detectors provide occupant notification.

18.3.5 Extinguishment Requirements

18.3.5.1\*

Buildings containing health care occupancies shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7, unless otherwise permitted by 18.3.5.5.

18.3.5.2 Reserved

18.3.5.3 Reserved

18.3.5.4

The sprinkler system required by 18.3.5.1 shall be installed in accordance with 9.7.1.1(1).

18.3.5.5

In Type I and Type II construction, alternative protection measures shall be permitted to be substituted for sprinkler protection without causing a building to be classified as nonsprinklered in specified areas where the authority having jurisdiction has prohibited sprinklers.

18.3.5.6\*

Listed quick-response or listed residential sprinklers shall be used throughout smoke compartments containing patient sleeping rooms.

18.3.5.7 Reserved

18.3.5.8 Reserved

18.3.5.9 Reserved

18.3.5.10\*

Sprinklers shall not be required in clothes closets of patient sleeping rooms in hospitals where the area of the closet does not exceed 6 ft2 (0.55 m2), provided that the distance from the sprinkler in the patient sleeping room to the back wall of the closet does not exceed the maximum distance permitted by NFPA 13.

18.3.5.11\*

Sprinklers in areas where cubicle curtains are installed shall be in accordance with NFPA 13.

18.3.5.12

Portable fire extinguishers shall be provided in all health care occupancies in accordance with Section 9.9.

18.3.6 Corridors

18.3.6.1 Corridor Separation

Corridors shall be separated from all other areas by partitions complying with 18.3.6.2 through 18.3.6.5(see also 18.2.5.4), unless otherwise permitted by one of the following:

\*Spaces shall be permitted to be unlimited in area and open to the corridor, provided that all of the following criteria are met:

\*The spaces are not used for patient sleeping rooms, treatment rooms, or hazardous areas.

The corridors onto which the spaces open in the same smoke compartment are protected by an electrically supervised automatic smoke detection system in accordance with 18.3.4, or the smoke compartment in which the space is located is protected throughout by quick-response sprinklers.

\*The open space is protected by an electrically supervised automatic smoke detection system in accordance with 18.3.4, or the entire space is arranged and located to allow direct supervision by the facility staff from a nurses' station or similar space.

The space does not obstruct access to required exits.

\*This requirement shall not apply to spaces for nurses' stations.

Gift shops not exceeding 500 ft2 (46.4 m2) shall be permitted to be open to the corridor or lobby.

In a limited care facility, group meeting or multipurpose therapeutic spaces shall be permitted to open to the corridor, provided that all of the following criteria are met:

The space is not a hazardous area.

\*The space is protected by an electrically supervised automatic smoke detection system in accordance with 18.3.4, or the space is arranged and located to allow direct supervision by the facility staff from the nurses' station or similar location.

The space does not obstruct access to required exits.

Cooking facilities in accordance with 18.3.2.5.3 shall be permitted to be open to the corridor.

18.3.6.2\* Construction of Corridor Walls

18.3.6.2.1\*

Corridor walls shall be permitted to terminate at or above the ceiling, but shall not be required to extend to the deck above, where the ceiling is constructed to limit the transfer of smoke.

18.3.6.2.2

No fire resistance rating shall be required for corridor walls.

18.3.6.2.3\*

Corridor walls shall form a barrier to limit the transfer of smoke.

18.3.6.3\* Corridor Doors

18.3.6.3.1\*

Doors, including doors or panels to nurse servers and pass-through openings, protecting corridor openings shall be constructed to resist the passage of smoke, and the following also shall apply:

Compliance with NFPA 80 shall not be required.

For other than doors protecting pass-through openings, a clearance between the bottom of the door and the floor covering not exceeding 1 in. (25 mm) shall be permitted.

For doors protecting pass-through openings, a clearance between the bottom of the door and the sill not exceeding 1/8 in. (3 mm) shall be permitted.

Doors to toilet rooms, bathrooms, shower rooms, sink closets, and similar auxiliary spaces that do not contain flammable or combustible material shall not be required to be constructed to resist the passage of smoke.

18.3.6.3.2 Reserved

18.3.6.3.3 Reserved

18.3.6.3.4 Reserved

18.3.6.3.5

Doors shall be self-latching and provided with positive latching hardware.

18.3.6.3.6

Doors to toilet rooms, bathrooms, shower rooms, sink closets, and similar auxiliary spaces that do not contain flammable or combustible materials shall not be required to meet the latching requirements of 18.3.6.3.5.

18.3.6.3.7

Powered doors that comply with the requirements of 7.2.1.9 shall not be required to meet the latching requirements of 18.3.6.3.5, provided that all of the following criteria are met:

The door is equipped with a means for keeping the door closed that is acceptable to the authority having jurisdiction.

The device used is capable of keeping the door fully closed if a force of 5 lbf (22 N) is applied at the latch edge of a swinging door and applied in any direction to a sliding or folding door, whether or not power is applied.

Where door leaves are operated by power by any automatic mechanism, the automatic opening of the doors shall cease to function upon operation of approved smoke detectors installed in accordance with the provisions of NFPA 72 for door release service.

18.3.6.3.8

Corridor doors utilizing an inactive leaf shall have automatic flush bolts on the inactive leaf to provide positive latching.

18.3.6.3.9 Roller Latches

18.3.6.3.9.1

Roller latches shall be prohibited, except as permitted by 18.3.6.3.9.2.

18.3.6.3.9.2

Roller latches shall be permitted for acute psychiatric settings where patient special clinical needs require specialized protective measures for their safety, provided that the roller latches are capable of keeping the door fully closed if a force of 5 lbf (22 N) is applied at the latch edge of the door.

18.3.6.3.10\*

Doors shall not be held open by devices other than those that release when the door is pushed or pulled.

18.3.6.3.11

Door-closing devices shall not be required on doors in corridor wall openings other than those serving required exits, smoke barriers, or enclosures of vertical openings and hazardous areas.

18.3.6.3.12\*

Nonrated, factory- or field-applied protective plates, unlimited in height, shall be permitted.

18.3.6.3.13

Dutch doors shall be permitted where they conform to 18.3.6.3 and meet all of the following criteria:

Both the upper leaf and lower leaf are equipped with a latching device.

The meeting edges of the upper and lower leaves are equipped with an astragal, a rabbet, or a bevel.

Where protecting openings in enclosures around hazardous areas, the doors comply with NFPA 80.

18.3.6.4 Transfer Grilles

18.3.6.4.1

Transfer grilles shall not be used in corridor walls or doors, unless otherwise permitted by 18.3.6.4.2.

18.3.6.4.2

Doors to toilet rooms, bathrooms, shower rooms, sink closets, and similar auxiliary spaces that do not contain flammable or combustible materials shall be permitted to have ventilating louvers or to be undercut.

18.3.6.5 Openings

18.3.6.5.1\*

In other than smoke compartments containing patient bedrooms, miscellaneous openings, such as mail slots, pharmacy pass-through windows, laboratory pass-through windows, and cashier pass-through windows, shall be permitted to be installed in vision panels or doors without special protection, provided that both of the following criteria are met:

The aggregate area of openings per room does not exceed 80 in.2 (0.05 m2).

The openings are installed at or below half the distance from the floor to the room ceiling.

18.3.6.5.2 Reserved

18.3.7\* Subdivision of Building Spaces

18.3.7.1

Buildings containing health care facilities shall be subdivided by smoke barriers (see 18.2.4.3), unless otherwise permitted by 18.3.7.2 and 18.3.7.3, as follows:

To divide every story used by inpatients for sleeping or treatment into not less than two smoke compartments

To divide every story having an occupant load of 50 or more persons, regardless of use, into not less than two smoke compartments

To limit the size of each smoke compartment required by 18.3.7.1(1) and 18.3.7.1(2) to an area not exceeding one of the following:

22,500 ft2 (2100 m2) gross floor area in hospital smoke compartments where any patient sleeping room is configured for two or more patients

40,000 ft2 (3720 m2) gross floor area in hospital smoke compartments where all patient sleeping rooms are configured for only one patient, in which case suites in accordance with 18.2.5.7 shall be permitted where every occupiable sleeping room within the suite is configured for only one patient

40,000 ft2 (3720 m2) gross floor area in hospital smoke compartments that contain no patient sleeping rooms

22,500 ft2 (2100 m2) gross floor area in nursing homes and limited care facilities

To separate atriums in accordance with 18.3.7.3, in which case no limitation in the atrium size is required

To limit the travel distance from any point to reach a door in the required smoke barrier to a distance not exceeding 200 ft (61 m)

18.3.7.2

The smoke barrier subdivision requirement of 18.3.7.1 shall not apply to any of the following occupancies:

Stories that do not contain a health care occupancy located directly above the health care occupancy

Areas on health care floors that do not contain a health care occupancy and that are separated from the health care occupancy by a fire barrier complying with 7.2.4.3

Stories that do not contain a health care occupancy and that are below the health care occupancy

Open-air parking structures protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7

18.3.7.3

Any required smoke barrier shall be constructed in accordance with Section 8.5 and shall have a minimum 1-hour fire resistance rating, unless otherwise permitted by one of the following:

This requirement shall not apply where an atrium is used, in which case both of the following criteria also shall apply:

Smoke barriers shall be permitted to terminate at an atrium wall constructed in accordance with 8.6.7(1)(c).

Not less than two separate smoke compartments shall be provided on each floor.

\*Smoke dampers shall not be required in duct penetrations of smoke barriers in fully ducted heating, ventilating, and air-conditioning systems.

The provisions of 8.5.6.5 and 8.5.7.2 shall not apply.

18.3.7.4

Materials and methods of construction used for required smoke barriers shall not reduce the required fire resistance rating.

18.3.7.5

Accumulation space shall be provided in accordance with 18.3.7.5.1 and 18.3.7.5.2.

18.3.7.5.1

Not less than 30 net ft2 (2.8 net m2) per patient in a hospital or nursing home, or not less than 15 net ft2 (1.4 net m2) per resident in a limited care facility, shall be provided within the aggregate area of corridors, patient rooms, treatment rooms, lounge or dining areas, and other low hazard areas on each side of the smoke barrier.

18.3.7.5.2

On stories not housing bedridden or litterborne patients, not less than 6 net ft2 (0.56 net m2) per occupant shall be provided on each side of the smoke barrier for the total number of occupants in adjoining compartments.

18.3.7.6\*

Doors in smoke barriers shall be substantial doors, such as nonrated 13/4 in. (44 mm) thick, solid-bonded wood-core doors, or shall be of construction that resists fire for a minimum of 20 minutes, and shall meet the following requirements:

Nonrated factory- or field-applied protective plates, unlimited in height, shall be permitted.

Cross-corridor openings in smoke barriers shall be protected by a pair of swinging doors or a special-purpose horizontally sliding accordion or folding door assembly complying with 7.2.1.13, unless otherwise permitted by 18.3.7.7.

The swinging doors addressed by 18.3.7.6(2) shall be arranged so that each door swings in a direction opposite from the other.

The minimum clear width of swinging doors shall be as follows:

Where the corridor is required to be a minimum of 8 ft (2440 mm) wide — 411/2 in. (1055 mm)

Where the corridor is required to be a minimum of 6 ft (1830 mm) wide — 32 in. (810 mm)

The minimum clear width opening for horizontal sliding doors shall be as follows:

Where the corridor is required to be a minimum of 8 ft (2440 mm) wide — 6 ft 11 in. (2110 mm)

Where the corridor is required to be a minimum of 6 ft (1830 mm) wide — 64 in. (1625 mm)

The clearance under the bottom of smoke barrier doors shall not exceed 3/4 in. (19 mm).

18.3.7.7

Cross-corridor openings in smoke barriers that are not in required means of egress from a health care space shall be permitted to be protected by a single-leaf door.

18.3.7.8\*

Doors in smoke barriers shall comply with 8.5.4 and all of the following:

The doors shall be self-closing or automatic-closing in accordance with 18.2.2.2.7.

Latching hardware shall not be required.

Stops shall be required at the head and sides of door frames.

Rabbets, bevels, or astragals shall be required at the meeting edges of pairs of doors.

Center mullions shall be prohibited.

18.3.7.9\*

Vision panels consisting of fire-rated glazing in approved frames shall be provided in each cross-corridor swinging door and at each cross-corridor horizontal-sliding door in a smoke barrier.

18.3.7.9.1

The bottom of at least one vision panel in each leaf shall be not more than 43 in. (1090 mm) above the finished floor.

18.3.7.10

Vision panels in doors in smoke barriers, if provided, shall be of fire-rated glazing in approved frames.

18.3.8 Special Protection Features. (Reserved)

18.4 Special Provisions

18.4.1 Special Structures

Health care occupancies shall comply with Chapter 11 where located in special structures.

18.4.2 Underground Structures and Limited Access Structures

Underground structures and limited access structures shall comply with Section 11.7.

18.4.3 High-Rise Buildings

High-rise buildings shall comply with Section 11.8.

18.4.4\* Alcohol-Based Hand-Rub Dispensers

Alcohol-based hand-rub dispensers shall be protected in accordance with 8.7.3.1, unless all of the following conditions are met:

Where dispensers are installed in a corridor, the corridor shall have a minimum width of 6 ft (1830 mm).

The maximum individual dispenser fluid capacity shall be as follows:

0.32 gal (1.2 L) for dispensers in rooms, corridors, and areas open to corridors

0.53 gal (2.0 L) for dispensers in suites of rooms

Where aerosol containers are used, the maximum capacity of the aerosol dispenser shall be 18 oz (0.51 kg) and shall be limited to Level 1 aerosols as defined in NFPA 30B.

Dispensers shall be separated from each other by horizontal spacing of not less than 48 in. (1220 mm).

Not more than an aggregate 10 gal (37.8 L) of alcohol-based hand-rub solution or 1135 oz (32.2 kg) of Level 1 aerosols, or a combination of liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gal (37.8 L) or 1135 oz (32.2 kg), shall be in use outside of a storage cabinet in a single smoke compartment, except as otherwise provided in 18.4.4(6).

One dispenser complying with 18.4.4(2) or 18.4.4(3) per room and located in that room shall not be included in the aggregated quantity addressed in 18.4.4(5).

Storage of quantities greater than 5 gal (18.9 L) in a single smoke compartment shall meet the requirements of NFPA 30.

Dispensers shall not be installed in the following locations:

Above an ignition source within a 1 in. (25 mm) horizontal distance from each side of the ignition source

To the side of an ignition source within a 1 in. (25 mm) horizontal distance from the ignition source

Beneath an ignition source within a 1 in. (25 mm) vertical distance from the ignition source

Dispensers installed directly over carpeted floors shall be permitted only in sprinklered smoke compartments.

The alcohol-based hand-rub solution shall not exceed 95 percent alcohol content by volume.

Operation of the dispenser shall comply with the following criteria:

The dispenser shall not release its contents except when the dispenser is activated, either manually or automatically by touch-free activation.

Any activation of the dispenser shall occur only when an object is placed within 4 in. (100 mm) of the sensing device.

An object placed within the activation zone and left in place shall not cause more than one activation.

The dispenser shall not dispense more solution than the amount required for hand hygiene consistent with label instructions.

The dispenser shall be designed, constructed, and operated in a manner that ensures that accidental or malicious activation of the dispensing device is minimized.

18.4.5 Nonsprinklered Existing Smoke Compartment Rehabilitation

18.4.5.1\* General

Where a modification in a nonsprinklered smoke compartment is exempted by the provisions of 18.1.1.4.3.4 from the sprinkler requirement of 18.3.5.1, the requirements of 18.4.5.2 through 18.4.5.8 shall apply.

18.4.5.2 Minimum Construction Requirements (Nonsprinklered Smoke Compartment Rehabilitation)

Health care occupancies in buildings not protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7 shall be limited to the building construction types specified in Table 18.4.5.2.

Table 18.4.5.2 Construction Type Limitations (Nonsprinklered Buildings)

Construction Type Sprinklered Total Number of Stories of Building\*

1 2 3 ≥4

I(442) Yes N/A N/A N/A N/A

No X X X X

I(332) Yes N/A N/A N/A N/A

No X X X X

II(222) Yes N/A N/A N/A N/A

No X X X X

II(111) Yes N/A N/A N/A N/A

No X NP NP NP

II(000) Yes N/A N/A N/A N/A

No NP NP NP NP

III(211) Yes N/A N/A N/A N/A

No NP NP NP NP

III(200) Yes N/A N/A N/A N/A

No NP NP NP NP

IV(2HH) Yes N/A N/A N/A N/A

No NP NP NP NP

V(111) Yes N/A N/A N/A N/A

No NP NP NP NP

V(000) Yes N/A N/A N/A N/A

No NP NP NP NP

N/A: Not applicable. X: Permitted. NP: Not permitted.

The total number of stories of the building is required to be determined as follows:

Notes:

The total number of stories is to be counted starting with the level of exit discharge and ending with the highest occupiable story of the building.

Stories below the level of exit discharge are not counted as stories.

Interstitial spaces used solely for building or process systems directly related to the level above or below are not considered a separate story.

A mezzanine in accordance with 8.6.10 is not counted as a story.

\*Basements are not counted as stories.

18.4.5.3 Capacity of Means of Egress (Nonsprinklered Smoke Compartment Rehabilitation)

The capacity of the means of egress serving the modification area shall be as follows:

1/2 in. (13 mm) per person for horizontal travel, without stairs, by means such as doors, ramps, or level floor surfaces

0.6 in. (15 mm) per person for travel by means of stairs

18.4.5.4 Travel Distance (Nonsprinklered Smoke Compartment Rehabilitation)

18.4.5.4.1

The travel distance between any room door required as an exit access and an exit shall not exceed the following:

150 ft (46 m) where the travel is wholly within smoke compartments protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7

100 ft (30 m) where the travel is not wholly within smoke compartments protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7

18.4.5.4.2

The travel distance between any point in a room and an exit shall not exceed the following:

200 ft (61 m) where the travel is wholly within smoke compartments protected throughout by an approved supervised sprinkler system in accordance with 19.3.5.7

150 ft (46 m) where the travel is not wholly within smoke compartments protected throughout by an approved supervised sprinkler system in accordance with 19.3.5.7

18.4.5.5 Hazardous Area Protection (Nonsprinklered Smoke Compartment Rehabilitation)

18.4.5.5.1

Where a new hazardous area is formed in an existing nonsprinklered smoke compartment, the hazardous area itself shall be protected as indicated in Table 18.4.5.5.1.

Table 18.4.5.5.1 Hazardous Area Protection (Nonsprinklered Buildings)

Hazardous Area Description Protection\*/Separation

Boiler and fuel-fired heater rooms 1 hour and sprinklers

Central/bulk laundries larger than 100 ft2 (9.3 m2) 1 hour and sprinklers

Paint shops employing hazardous substances and materials in quantities less than those that would be classified as a severe hazard 1 hour and sprinklers

Physical plant maintenance shops 1 hour and sprinklers

Soiled linen rooms 1 hour and sprinklers

Storage rooms larger than 50 ft2 (4.6 m2) but not exceeding 100 ft2 (9.3 m2) and storing combustible material 1 hour or sprinklers (Also see 18.4.5.7.2.2.)

Storage rooms larger than 100 ft2 (9.3 m2) and storing combustible material 1 hour and sprinklers

Trash collection rooms 1 hour and sprinklers

\*Minimum fire resistance rating.

18.4.5.5.2

Laboratories in which chemicals are handled or stored shall comply with NFPA 45.

18.4.5.6 Interior Finish (Nonsprinklered Smoke Compartment Rehabilitation)

18.4.5.6.1 General

Interior finish within the modification area shall be in accordance with Section 10.2.

18.4.5.6.2 Interior Wall and Ceiling Finish

Newly installed interior wall and ceiling finish materials complying with Section 10.2 shall be permitted throughout nonsprinklered smoke compartments if the materials are Class A, except as otherwise permitted in 18.4.5.6.2.1 or 18.4.5.6.2.2.

18.4.5.6.2.1

Walls and ceilings shall be permitted to have Class A or Class B interior finish in individual rooms having a capacity not exceeding four persons.

18.4.5.6.2.2

Corridor wall finish not exceeding 48 in. (1220 mm) in height and restricted to the lower half of the wall shall be permitted to be Class A or Class B.

18.4.5.6.3 Interior Floor Finish

18.4.5.6.3.1

Newly installed interior floor finish shall comply with Section 10.2.

18.4.5.6.3.2

The requirements for newly installed interior floor finish in exit enclosures and corridors not separated from them by walls complying with 19.3.5.7 shall be as follows:

Unrestricted in smoke compartments protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7

Not less than Class I in smoke compartments not protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7

18.4.5.7 Corridors (Nonsprinklered Smoke Compartment Rehabilitation)

18.4.5.7.1 Construction of Corridor Walls

18.4.5.7.1.1

Where the smoke compartment being modified is not protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7, corridor walls shall comply with all of the following, as modified by 18.4.5.7.1.2:

They shall have a minimum 1/2-hour fire resistance rating.

They shall be continuous from the floor to the underside of the floor or roof deck above.

They shall resist the passage of smoke.

18.4.5.7.1.2

The requirements of 18.4.5.7.1.1 shall be permitted to be modified for conditions permitted by 19.3.6.1(3) and 19.3.6.1(4) and 19.3.6.1(6) through 19.3.6.1(8).

18.4.5.7.2 Corridor Doors

18.4.5.7.2.1

Where the smoke compartment being modified is not protected throughout by an approved, supervised automatic sprinkler system in accordance with 19.3.5.7, all of the following shall apply:

Doors protecting corridor openings shall be constructed of 13/4 in. (44 mm) thick, solid-bonded wood-core or of construction that resists the passage of fire for a minimum of 20 minutes.

Door frames shall be labeled or of steel construction.

Existing roller latches demonstrated to keep the door closed against a force of 5 lbf (22 N) shall be permitted.

18.4.5.7.2.2

Door-closing devices shall be required on doors in corridor wall openings serving smoke barriers or enclosures of exits, hazardous contents areas, or vertical openings.

18.4.5.8 Subdivision of Building Space (Nonsprinklered Smoke Compartment Rehabilitation)

Subparagraph 18.3.7.3(2) shall be permitted only where adjacent smoke compartments are protected throughout by an approved, supervised automatic sprinkler system in accordance with 18.3.5.4 and 18.3.5.6.

18.5 Building Services

18.5.1 Utilities

18.5.1.1

Utilities shall comply with the provisions of Section 9.1.

18.5.1.2

Power for alarms, emergency communications systems, and illumination of generator set locations shall be in accordance with the essential electrical system requirements of NFPA 99.

18.5.1.3

Any health care occupancy, as indicated in 18.1.1.1.4, that normally uses life-support devices shall have electrical systems designed and installed in accordance with NFPA 99 unless the facility uses life-support equipment for emergency purposes only.

18.5.1.4

Design, installation, testing, and maintenance of essential electrical systems shall be in accordance with NFPA 99.

18.5.2 Heating, Ventilating, and Air-Conditioning

18.5.2.1

Heating, ventilating, and air-conditioning shall comply with the provisions of Section 9.2 and shall be installed in accordance with the manufacturer's specifications, unless otherwise modified by 18.5.2.2.

18.5.2.2\*

Any heating device, other than a central heating plant, shall be designed and installed so that combustible material cannot be ignited by the device or its appurtenances, and the following requirements shall also apply:

If fuel-fired, such heating devices shall comply with the following:

They shall be chimney connected or vent connected.

They shall take air for combustion directly from outside.

They shall be designed and installed to provide for complete separation of the combustion system from the atmosphere of the occupied area.

Any heating device shall have safety features to immediately stop the flow of fuel and shut down the equipment in case of either excessive temperatures or ignition failure.

18.5.2.3

The requirements of 18.5.2.2 shall not apply where otherwise permitted by the following:

Approved, suspended unit heaters shall be permitted in locations other than means of egress and patient sleeping areas, provided that both of the following criteria are met:

Such heaters are located high enough to be out of the reach of persons using the area.

Such heaters are equipped with the safety features required by 18.5.2.2(2).

Direct-vent gas fireplaces, as defined in NFPA 54 shall be permitted inside of smoke compartments containing patient sleeping areas, provided that all of the following criteria are met:

All such devices shall be installed, maintained, and used in accordance with 9.2.2.

No such device shall be located inside of a patient sleeping room.

The smoke compartment in which the direct-vent gas fireplace is located shall be protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1) with listed quick-response or listed residential sprinklers.

\*The direct-vent fireplace shall include a sealed glass front with a wire mesh panel or screen.

\*The controls for the direct-vent gas fireplace shall be locked or located in a restricted location.

Electrically supervised carbon monoxide detection in accordance with Section 9.12 shall be provided in the room where the fireplace is located.

Solid fuel-burning fireplaces shall be permitted and used only in areas other than patient sleeping areas, provided that all of the following criteria are met:

Such areas are separated from patient sleeping spaces by construction having not less than a 1-hour fire resistance rating.

The fireplace complies with the provisions of 9.2.2.

The fireplace is equipped with both of the following:

Hearth raised not less than 4 in. (100 mm)

Fireplace enclosure guaranteed against breakage up to a temperature of 650°F (343°C) and constructed of heat-tempered glass or other approved material

Electrically supervised carbon monoxide detection in accordance with Section 9.12 is provided in the room where the fireplace is located

If, in the opinion of the authority having jurisdiction, special hazards are present, a lock on the enclosure specified in 18.5.2.3(3)(c)(ii) and other safety precautions shall be permitted to be required.

18.5.3 Elevators, Escalators, and Conveyors

Elevators, escalators, and conveyors shall comply with the provisions of Section 9.4.

18.5.4 Waste Chutes, Incinerators, and Laundry Chutes

18.5.4.1

Waste chutes, incinerators, and laundry chutes shall comply with the provisions of Section 9.5, unless otherwise specified in 18.5.4.2.

18.5.4.2

The fire resistance rating of chute service opening rooms shall not be required to exceed 1 hour.

18.5.4.3

Any waste chute or linen chute, including pneumatic waste and linen systems, shall be provided with automatic extinguishing protection in accordance with Section 9.7. (See Section 9.5.)

18.5.4.4

Any chute shall discharge into a chute discharge room used for no other purpose and shall be protected in accordance with Section 8.7 and Section 9.5.

18.5.4.5 Reserved

18.5.4.6

Incinerators shall not be directly flue-fed, nor shall any floor-charging chute directly connect with the combustion chamber.

18.6 Reserved

18.7\* Operating Features

18.7.1 Evacuation and Relocation Plan and Fire Drills

18.7.1.1

The administration of every health care occupancy shall have, in effect and available to all supervisory personnel, written copies of a plan for the protection of all persons in the event of fire, for their evacuation to areas of refuge, and for their evacuation from the building when necessary.

18.7.1.2

All employees shall be periodically instructed and kept informed with respect to their duties under the plan required by 18.7.1.1.

18.7.1.3

A copy of the plan required by 18.7.1.1 shall be readily available at all times in the telephone operator's location or at the security center.

18.7.1.4\*

Fire drills in health care occupancies shall include the simulation of emergency fire conditions and, except as indicated in 18.7.1.7, include activation of the fire alarm system notification appliances.

18.7.1.5

Infirm or bedridden patients shall not be required to be moved during drills to safe areas or to the exterior of the building.

18.7.1.6

Drills shall be conducted quarterly on each shift to familiarize facility personnel (nurses, interns, maintenance engineers, and administrative staff) with the signals and emergency action required under varied conditions.

18.7.1.7

When drills are conducted between 9:00 p.m. and 6:00 a.m. (2100 hours and 0600 hours), a coded announcement shall be permitted to be used instead of activating the fire alarm system notification appliances.

18.7.1.8

Employees of health care occupancies shall be instructed in life safety procedures and devices.

18.7.2 Procedure in Case of Fire

18.7.2.1\* Protection of Patients

18.7.2.1.1

For health care occupancies, the proper protection of patients shall require the prompt and effective response of health care personnel.

18.7.2.1.2

The basic response required of staff shall include the following:

Removal of all occupants directly involved with the fire emergency

Transmission of an appropriate fire alarm signal to warn other building occupants and summon staff

Confinement of the effects of the fire by closing doors to isolate the fire area

Relocation of patients as detailed in the health care occupancy's fire safety plan

18.7.2.2 Fire Safety Plan

A written health care occupancy fire safety plan shall provide for all of the following:

Use of alarms

Transmission of alarms to fire department

Emergency phone call to fire department

Response to alarms

Isolation of fire

Evacuation of immediate area

Evacuation of smoke compartment

Preparation of floors and building for evacuation

Extinguishment of fire

Location and operation of doors disguised with murals as permitted by 18.2.2.2.7

18.7.2.3 Staff Response

18.7.2.3.1

All health care occupancy personnel shall be instructed in the use of and response to fire alarms.

18.7.2.3.2

All health care occupancy personnel shall be instructed in the use of the code phrase to ensure transmission of an alarm under any of the following conditions:

When the individual who discovers a fire must immediately go to the aid of an endangered person

During a malfunction of the building fire alarm system

18.7.2.3.3

Personnel hearing the code announced shall first activate the building fire alarm using the nearest manual fire alarm box and then shall execute immediately their duties as outlined in the fire safety plan.

18.7.3 Maintenance of Means of Egress

18.7.3.1

Proper maintenance shall be provided to ensure the dependability of the method of evacuation selected.

18.7.3.2

Health care occupancies that find it necessary to lock means of egress doors shall, at all times, maintain an adequate staff qualified to release locks and direct occupants from the immediate danger area to a place of safety in case of fire or other emergency.

18.7.3.3\*

Where required by the authority having jurisdiction, a floor plan shall be provided to indicate the location of all required means of egress corridors in smoke compartments having spaces not separated from the corridor by partitions.

18.7.4\* Smoking

Smoking regulations shall be adopted and shall include not less than the following provisions:

Smoking shall be prohibited in any room, ward, or individual enclosed space where flammable liquids, combustible gases, or oxygen is used or stored and in any other hazardous location, and such areas shall be posted with signs that read NO SMOKING or shall be posted with the international symbol for no smoking.

In health care occupancies where smoking is prohibited and signs are prominently placed at all major entrances, secondary signs with language that prohibits smoking shall not be required.

Smoking by patients classified as not responsible shall be prohibited.

The requirement of 18.7.4(3) shall not apply where the patient is under direct supervision.

Ashtrays of noncombustible material and safe design shall be provided in all areas where smoking is permitted inside the building.

Metal containers with self-closing cover devices into which ashtrays can be emptied shall be readily available to all areas where smoking is permitted inside the building.

18.7.5 Furnishings, Mattresses, and Decorations

18.7.5.1\*

Draperies, curtains, and other loosely hanging fabrics and films serving as furnishings or decorations in health care occupancies shall be in accordance with the provisions of 10.3.1 (see 18.3.5.11), and the following also shall apply:

Such curtains shall include cubicle curtains.

Such curtains shall not include curtains at showers and baths.

Such draperies and curtains shall not include draperies and curtains at windows in patient sleeping rooms.

Such draperies and curtains shall not include draperies and curtains in other rooms or areas where the draperies and curtains comply with both of the following:

Individual drapery or curtain panel area does not exceed 48 ft2 (4.5 m2)

Total area of drapery and curtain panels per room or area does not exceed 20 percent of the aggregate area of the wall on which they are located

18.7.5.2

Newly introduced upholstered furniture within health care occupancies shall comply with one of the following provisions:

The furniture shall meet the criteria specified in 10.3.2.1 and 10.3.2.2.

The furniture shall be in a building protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1).

18.7.5.3 Reserved

18.7.5.4

Newly introduced mattresses within health care occupancies shall comply with one of the following provisions:

The mattresses shall meet the criteria specified in 10.3.3 and 10.3.3.2.

The mattresses shall be in a building protected throughout by an approved, supervised automatic sprinkler system in accordance with 9.7.1.1(1).

18.7.5.5 Reserved

18.7.5.6

Combustible decorations shall be prohibited in any health care occupancy, unless one of the following criteria is met:

They are flame-retardant or are treated with approved fire-retardant coating that is listed and labeled for application to the material to which it is applied.

\*The decorations meet the flame propagation performance criteria contained in Test Method 1 or Test Method 2, as appropriate, of NFPA 701.

The decorations exhibit a heat release rate not exceeding 100 kW when tested in accordance with NFPA 289 using the 20 kW ignition source.

\*The decorations, such as photographs, paintings, and other art, are attached directly to the walls, ceiling, and non-fire-rated doors in accordance with the following:

Decorations on non-fire-rated doors do not interfere with the operation or any required latching of the door and do not exceed the area limitations of 18.7.5.6(4)(b), 18.7.5.6(4)(c), or 18.7.5.6(4)(d).

Decorations do not exceed 20 percent of the wall, ceiling, and door areas inside any room or space of a smoke compartment that is not protected throughout by an approved automatic sprinkler system in accordance with Section 9.7.

Decorations do not exceed 30 percent of the wall, ceiling, and door areas inside any room or space of a smoke compartment that is protected throughout by an approved supervised automatic sprinkler system in accordance with Section 9.7.

Decorations do not exceed 50 percent of the wall, ceiling, and door areas inside patient sleeping rooms having a capacity not exceeding four persons, in a smoke compartment that is protected throughout by an approved, supervised automatic sprinkler system in accordance with Section 9.7.

18.7.5.7 Soiled Linen and Trash Receptacles

18.7.5.7.1\*

Soiled linen or trash collection receptacles with capacities greater than 64 gal (242 L) shall be located in a hazardous area when not attended.

18.7.5.7.2\*

Containers greater than 64 gal (242 L) used solely for recycling clean waste or for patient records awaiting destruction shall be permitted to be excluded from the requirements of 18.7.5.7.1 where all the following conditions are met:

Each container shall be limited to a maximum capacity of 96 gal (363 L).

Containers for combustibles shall be labeled and listed as meeting the requirements of FM Approval 6921, Approval Standard for Containers for Combustible Waste; however, such testing, listing, and labeling shall not be limited to FM Approvals.

18.7.5.7.3

The provisions of 10.3.8, applicable to containers for waste or linen, shall not apply.

18.7.6 Maintenance and Testing

See 4.6.12.

18.7.7 Engineered Smoke Control Systems

18.7.7.1

New engineered smoke control systems shall be designed, installed, tested, and maintained in accordance with Section 9.3.

18.7.7.2

Test documentation shall be maintained on the premises at all times.

18.7.8\* Portable Space-Heating Devices

Portable space-heating devices shall be prohibited in all health care occupancies, unless both of the following criteria are met:

Such devices are permitted to be used only in nonsleeping staff and employee areas.

Such devices are listed and labeled for use as a freestanding, movable heater in accordance with UL 1278, Movable and Wall- or Ceiling-Hung Electric Room Heaters.

18.7.9 Construction, Repair, and Improvement Operations

18.7.9.1

Construction, repair, and improvement operations shall comply with 4.6.10.

18.7.9.2

The means of egress in any area undergoing construction, repair, or improvements shall be inspected daily for compliance with 7.1.10.1 and shall also comply with NFPA 241.

18.7.9.3

For rehabilitation activities or preparation for rehabilitation activities of a duration not greater than 30 days that do not cause the classification of the construction area as a as identified in 18.3.2, flame-resistant plastic in accordance with , or equivalent, shall be permitted to be used to separate the construction area from the other spaces.

18.7.10 Integrated Fire Protection and Life Safety Systems

Integrated fire protection and life safety systems shall be tested in accordance with 9.11.4.1.



