

AD HOC HEALTHCARE COMMITTEE MEETING #5
ROUND 1 REPORT & NOTES FROM AHC # 5
WORK GROUPS: FIRE/FIRE SAFETY; GENERAL; EGRESS
12/08/2011

Notes from the meeting in indicated in red

FIRE/FIRE SAFETY WORK GROUP REPORT

PART I – ROUND ONE ISSUES CODE CHANGE DRAFTS

Introduction: The following code change proposal drafts are organized numerically by Round 1 issues. To help focus on the more pressing code change deadline for Group A code changes, here is how these proposals divide among Group A and Group B codes:

Group A: Round 1, Issues 3, 4, 5, 6, and 11

Group B: Round 1, Issues 1, 1A, 9, 11A, 12, 12A and 14;

NOTE that the ICC-CTC has joined as a co-sponsor on Round 1, Issues 1, 3, 6, 11 & 11A, 12 & 12A and 14.

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Round 1, Issue 1: DECORATIONS ON WALLS

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

IFC 807.1 (IBC [F] 806.1)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IFC 807.1 (IBC [F] 806.1) General requirements. In occupancies in Groups A, E, I and R-1 and dormitories in Group R-2, curtains draperies, hangings and other *decorative materials* suspended from walls or ceilings shall meet the flame propagation performance criteria of NFPA 701 in accordance with section 806.2 or be noncombustible.

Exceptions:

1. Curtains, draperies, hangings and other decorative materials suspended from walls of *sleeping units* and *dwelling units* in dormitories in Group R-2 protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.
2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

In Groups I-1 and I-2, combustible *decorative materials* shall meet the flame propagation performance criteria of NFPA 701 ~~unless the *decorative materials*, including, but not limited to, photographs and paintings, are of such limited quantities that a hazard of fire development or spread is not present.~~ In Group I-3, combustible decorations are prohibited.

Exception: In Groups I-1 and I-2, *decorative material* covering not more than 20 percent of the specific wall area to which it is attached.

Fixed or movable walls and partitions, paneling, wall pads and crash pads applied structurally or for decoration, acoustical correction, surface insulation or other purposes shall be considered *interior finish* if they cover 10 percent or more of the wall or of the ceiling area, and shall not be considered *decorative materials* or furnishings.

In Group B and M occupancies, fabric partitions suspended from the ceiling and not supported by the floor shall meet the flame propagation performance criteria in accordance with Section 806.2 and NFPA 701 or shall be noncombustible.

Section 202 (IBC 202) GENERAL DEFINITIONS

DECORATIVE MATERIALS. All materials applied over the building *interior finish* for decorative, acoustical or other effect (~~such as including, but not limited to,~~ curtains, draperies, fabrics, streamers and surface coverings), and all other materials utilized for decorative effect (~~such as including, but not limited to, photographs, paintings, bulletin boards, artwork, posters,~~ batting, cloth, cotton, hay, stalks, straw, vines, leaves, trees, moss and similar items), including foam plastics and materials containing foam plastics. Decorative materials do not include floor coverings, ordinary window shades, *interior finish* and materials 0.025 inch (0.64 mm) or less in thickness applied directly to and adhering tightly to a substrate.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of

the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Healthcare occupancies have areas for long term patients. These areas are for pediatrics, psychiatric, substance abuse recovery units, etc. Patient-prepared art and seasonal decorations help define a friendlier environment. Current code limits the decorative material to materials meeting NFPA 701. The proposed exception will allow up to 20% of the wall area to be decorative material without NFPA 701 documentation. This allowable area is in response to the user's needs to address to display more artwork.

The original requirements for Group I-1 and I-2 occupancies allow photos and paintings are of such limited quantities that a hazard of fire development or spread is not present. NFPA 701 flame propagation is required for other decorative material. These 2012 edition Section 806.1 requirements are independent of automatic sprinkler protection. Automatic sprinklers are required in Group I-1 & I-2 facilities. Automatic suppression will limit the fire propagation to the area of origin. The decorative finishes will not adversely affect the automatic sprinkler performance for typical materials of paper, cloth, textiles, and plastic films in quantities limited to less than 20% of the wall area. Burning characteristics vary widely based on the material used. The new automatic sprinkler technology required by NFPA 13 "Standard for the Installation of Automatic Sprinklers" will respond quicker to a fire. Quick response automatic sprinklers are required in all new light hazard areas. The quick response sprinkler technology was mandated in NFPA 13 in the 1996 edition of the standard. Group I-1 & I-2 corridor and circulation spaces are considered light hazard area for automatic sprinkler protection. These quick response sprinklers will respond 3 to 5 times faster than standard response sprinklers. This faster response will start suppression when the fire is smaller with less heat and products of combustion generation.

The 2012 IFC Section 807.4.3.2 and 807.4.4.2 for Group E and I-4 occupancies allow art work and teaching materials on the corridor walls not to exceed 20% of the wall area. These occupancy types are required to be protected with automatic sprinklers in most configurations. There is trained staff in the facility at all times it is occupied by students, children or clients. Group I-1 and I-2 occupancies have trained staff present 24 hours a day. Similar safe guards are present in these 3 types of occupancies. I-1 and I-2 also have smoke zoning and special protection of hazard requirements to control exposure to the products of combustion.

Flame spread on the decorative wall covering will be primarily in the vertical direction. Horizontal propagation will occur at a considerably slower rate than the vertical in typical corridor configurations. This slower horizontal propagation can be retarded or suppressed by the quick response sprinklers. 20% of the wall area was selected as a reasonable limit, allowing the facility flexibility in using decorative wall materials.

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Round 1, Issue 1A: Natural Cut Trees in ACF's

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

806.1.1

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IFC 806.1.1 Restricted occupancies. Natural cut trees shall be prohibited in ambulatory care facilities and Group A, E, I-1, I-2, I-3, I-4, M, R-1, R-2 and R-4 occupancies.

Exceptions:

1. Trees located in areas protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2 shall not be prohibited in Groups A, E, M, R-1 and R-2.
2. Trees shall be allowed within *dwelling units* in Group R-2 occupancies.

IFC 806.3 Obstruction of means of egress. The required width of any portion of a *means of egress* shall not be obstructed by decorative vegetation. Natural cut trees shall not be located within an exit, corridor, or a lobby or vestibule that is part of the means of egress.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Ambulatory Care Facilities ARE being added to the list of prohibited occupancies for natural cut trees at Section 806.1.1. Patients are rendered incapable of self preservation in this occupancy in activities that present the same evacuation challenges presented by Group I-2 occupancies which are already in the list. Section 806.3 "Obstruction of the means of egress" is modified by adding "*Natural cut trees shall not be located within an exit, corridor, a lobby or vestibule that is part of the means of egress*". The rapid manner in which a natural cut tree is consumed by fire with the associated release of heat and smoke would present a distinct hazard to egress regardless of whether it impinged on the required width of the means of egress. A burning tree could not be approached or passed by effectively blocking that portion of an egress path while spreading heat and smoke to additional portions of the means of egress. A significant impact would be a natural cut tree located within a lobby that has the allowed 50% of all egress capacity passing through the same lobby.

Ambulatory Care Facilities are located within Business Group occupancies where natural cut trees are permitted, this added prohibition eliminates a hazard that otherwise would not occur for similar activities conducted in a I-2 Group occupancy and provides an improved level of protection for other occupancies. Hospital complexes are typically a mixed use occupancy with Group I-2, Group A-3, Group M and Group B activities occurring within various portions of the complex. This added prohibition further protects the means of egress from the various components of the hospital complex.

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Round 1, Issue 3: INTERCOMMUNICATION BETWEEN FLOOR OPENINGS

CODE GROUP A – IBC GENERAL COMMITTEE

**Gxx-12/13
404.5, 712.1.8**

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Health Care Committee and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

404.5 Smoke control. A smoke control system shall be installed in accordance with Section 909.

Exception: In other than Group I-2, smoke control is not required for atriums that connect only two stories.

712.1.8 Two-story openings. In other than Groups I-2 and I-3, a floor opening that is not used as one of the applications listed in this section shall be permitted if it complies with all of the items below.

1. Does not connect more than two stories.
2. Does not contain a stairway or ramp required by Chapter 10.
3. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.
4. Is not concealed within the construction of a wall or a floor/ceiling assembly.
5. Is not open to a corridor in Group I and R occupancies.
6. Is not open to a corridor on nonsprinklered floors.
7. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its

inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This proposal is intended to correct a misapplication of the intent of the code and coordinate with federal requirements. Currently the language in Section 404.5 and 404.6 would allow a two story atrium to be open to the floors without providing a smoke control system or any passive separation. While this may be appropriate for many occupancy groups, exposing patients who are incapable of self preservation to a large vertical opening is an unacceptable risk. Practically, this would never occur because federal requirements that fund and regulate these types of facilities would not allow an opening without either smoke control or passive separation.

Two story vertical openings are design features that hospitals typically employ to create a more calming and welcoming environment for the patients and their families. The intent of the code appears to allow multiple methods for dealing vertical openings. The AHC believed that a reasonable solution was to restrict the unprotected atrium language and concurrently add language to allow the use of two story openings in 712.1.8. This trade off would protect the corridor from the large opening between floors. It would also provide facilities and designers two options for dealing with these openings.

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CODE GROUP A – IBC FIRE SAFETY

Round 1, Issue 4: SMOKE DAMPER EFFECTIVENESS

FSxx-12/13

717.5.5

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Health Care Committee

Revise as follows:

717.5.5 Smoke barriers. A *listed smoke damper* designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a *smoke barrier*. *Smoke dampers* and *smoke damper* actuation methods shall comply with Section 717.3.3.2.

Exceptions:

- 1.** *Smoke dampers* are not required where the openings in ducts are limited to a single smoke compartment and the ducts are constructed of steel.

2. Smoke dampers are not required in ambulatory care facilities and Group I-2 hospital occupancies where the HVAC system is fully ducted in accordance with Section 603 of the *International Mechanical Code* and where buildings are equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 and equipped with quick response sprinklers in accordance with Section 903.3.2.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Duct smoke dampers at smoke barrier walls in facilities fully protected with electronically supervised, tested and maintained quick response automatic sprinkler systems should be omitted. Evaluations of recent automatic sprinkler performance data and smoke movement analysis report for smoke dampers revealed the following:

1. In 3,750 fires reported over the years of 2003 – 2006 in hospitals, mental health and substance abuse facilities; one civilian death was recorded. That individual was within the room of fire origin within a mental health facility and started the fire.
2. The overwhelming majority (i.e. 97+%) of fires within these facilities did not extend beyond the room of origin, despite having an automatic suppression system present in only 57% of reported fires.
3. Automatic sprinkler protection in a hospital has higher reliability and better performance than other occupancies. In over 1,600 fires in hospitals spanning 2003 - 2006, when sprinklers were present and the fires were large enough to activate an automatic suppression system, those systems showed a 97% operational reliability and were effective 100% of the time.
4. The requirements for electronically supervised hydraulically designed automatic sprinkler system increases the system reliability
5. Properly documented testing and maintenance improves the reliability of these systems. CMS holds healthcare facility operators accountable for the testing and maintenance requirements of NFPA 25.
6. Tenable conditions are present in the smoke movement analysis for sprinklered buildings with or without smoke dampers.
7. Tenable conditions in non sprinklered configurations can be maintained for test fire duration of 30 minutes beyond room of origin.

Due the required automatic system design requirements, the limited smoke movement in a fully sprinklered building, required testing and maintenance of these suppression systems,

the omission of smoke dampers is justified. There are still multiple safeguards to protect the building occupants from a multiple loss of life fire.

The use of smoke dampers between smoke zones in hospitals protected with Quick Response automatic Sprinklers (QRS) is being evaluated based on the reports of fire outcomes in hospitals; automatic sprinkler system reliability, performance, and effectiveness; and an assessment of previous smoke movement work in non sprinklered configurations.

NFPA issued an updated report on automatic sprinkler performance in two different reports ⁽¹⁾⁽²⁾. The reported data has been reviewed and evaluated for hospital facilities when possible. The failure modes will be reviewed and addressed based on current Building Code and Fire Code requirements.

Jennifer Flynn's report ⁽²⁾ shows there were 3,750 fires reported to have occurred over the years of 2003 – 2006 in hospitals, mental health, substance abuse and medical office type facilities. In all those fires, one fatality was reported, and that fatality occurred within the room of fire origin. That one fatality occurred as a result of a mental health patient using flammable liquids and igniting the mattress and other materials within his room.

Of reported 2003-2007 structure fires in health care properties, an estimated 57% showed sprinklers present, with higher percentages for hospitals (71%) and nursing homes (65%) and a much lower percentage for clinics and doctor's offices (28%). Sprinklers were also reported as present in half or more of all reported fires in laboratories (60%), manufacturing facilities (52%), theaters (50%), and prisons and jails (50%). In every other property use, more than half of all reported fires had no sprinklers.

Hospitals have the highest percentage of automatic sprinklers present in all the occupancies analyzed in this report. Despite suppression systems being present in only 57% of health care properties where fires were reported, those fires only extended beyond the room of origin in less than 3 percent of all reported fires. This can be directly attributed to the **R.A.C.E.** training medical staff are mandated to receive annually. The **C** in RACE relates to *confining* the fire. More simply, medical staff are trained to close the doors in rooms where fires ignite, after they **R**escue patients near the fire origin and **A**lert others of the presence of the fire.

For most property use groups and most types of automatic extinguishing equipment, the majority of reported fires were too small to activate operational equipment. When automatic extinguishing equipment was present, the percentages of fires too small to activate operating equipment, based on overall reported structure fires, were as follows:

- 65% for all sprinklers,
- 65% for wet pipe sprinklers,
- 70% for dry pipe sprinklers,
- 61% for dry (or possibly wet) chemical systems,
- 43% for carbon dioxide systems,
- 66% for foam systems, and
- 59% for halogen systems.

Sprinklers in the area of fire failed to operate in only 7% of reported structure fires large enough to activate sprinklers. Based on Table A ⁽¹⁾, non confined fires larger than the sprinkler design area happened less than 2.0 % of the total non-confined and confined structure fires for healthcare buildings. These fires may affect a large part of a smoke compartment but they rarely happen.

Table 3A ⁽¹⁾ indicates the percentage of effective operation of sprinklers in 620 fires large enough for sprinkler activation at 87% in all healthcare related facilities. The Flynn report breaks this down by type of healthcare facility. Where sprinklers were present and the fire was large enough to operate the sprinklers in hospitals alone, sprinklers were effective 100 percent of the time.

The assessment of automatic sprinkler failures are summarized in Table 4A ⁽¹⁾. However, healthcare or hospitals are not separated as an occupancy type.

The reason sprinklers fail to operate in all occupancies are:

1. System turned off	53%
2. Inappropriate suppression system	20%
3. Lack of Maintenance	15%
4. Manual intervention	9%
5. System component damages	2%

In new and existing hospitals, the automatic sprinkler systems require electronic supervision. This supervision will typically address the major (53%) reason for system failure. This analysis is limited to hospitals. Automatic water based suppression is the appropriate means to control fires in this healthcare occupancy. This addresses 20% of the documented failures. Automatic water based suppression systems are required for all new hospitals and all renovations over 4000 square feet. 73% of the failures are addressed by electronically supervised automatic sprinkler systems.

Lack of maintenance is addressed by the CMS enforcement which ensures facilities follow NFPA 25. Existing healthcare facilities are required to document the NFPA 25 inspection, testing and maintenance on all water based suppression systems. Through contracts with state public health and fire marshal's offices that direct periodic surveys, CMS ensures that the needed inspection, testing and maintenance is provided in health care facilities. This work will also identify damaged system components. The required testing and maintenance and damage will address 17% of the documented failures.

Manual intervention is a fire service function. Standard operating procedures recommend determining the fire no longer poses a threat before shutting the system down.

The Hall report ⁽¹⁾ also notes reasons for ineffectiveness of systems. This category addresses the effectiveness of a system not the failure. These systems still operated but not at the design intent. These have 2 major categories. Extinguishing agent did not reach the fire and not enough extinguishing agent available.

Shielded fires are the first category. These can be addressed by proper design. Small shielded fires under tables or beds are within the design parameters of a NFPA 13 compliant sprinkler system. Missing areas under duct work or within storage racks are the typical issues in this category. These types of items, if missed in the initial design and installation, should be identified in the ongoing testing and maintenance required by NFPA 25.

Insufficient extinguishing agent addresses inadequate water supply and partially closed valves. Proper maintenance and testing will identify a deteriorating water supply. The electronic supervision required for the hospital sprinkler system will send a trouble alarm to the fire alarm panel for partially closed control valves.

The hydraulically designed, electronically supervised, and regularly tested and maintained automatic sprinkler system is substantially more reliable than the current performance data indicate. Fire loss data also shows there has not been a documented multiple loss of live fire due to fire in a fully sprinklered building.

This sprinkler system analysis was done to evaluate the current data and how it relates to hospitals and demonstrates that the probability of a catastrophic failure of the required sprinkler system is remote. The biggest influence on the automatic sprinkler performance is the fire services for a properly designed, installed and maintained sprinkler system.

SMOKE DAMPER EVALUATION – ADDITIONAL CONSIDERATIONS

This portion of the reason statement evaluates an analysis prepared by Koffel Associates, Inc. (KA) titled “Smoke Damper Evaluation for Air Movement & Control Association International, Inc.” and dated May 14, 2010. The purpose of our evaluation is to closely examine the details, assumptions, and conclusions related to the KA analysis to quantify the severity of hazardous conditions expected given the smoke spread predicted in the analysis for the scenarios with and without smoke dampers.

The KA analysis utilized a CONTAM computer model to predict smoke movement throughout a representative building under various conditions. The primary variables considered in this comparative analysis were whether the fire was sprinklered or unsprinklered and whether smoke dampers were included or omitted from the model. Data from a study titled “Fire Experiments of Zoned Smoke Control at the Plaza Hotel in Washington DC” by John H. Klotz at the National Institute of Standards and Technology (NIST), 1990, was used as a basis for modeling smoke in the CONTAM model. Specifically, the KA analysis assumed a smoke concentration of 5.66×10^{-5} lb/ft³ in the compartment of origin for the unsprinklered fire scenario and a concentration of 1.89×10^{-6} lb/ft³ for the sprinklered fire scenario which is reportedly based on the fire test data contained in the Klotz study.

The Klotz study involved real fire tests conducted in the Plaza Hotel, a seven-story masonry structure. The Plaza Hotel tests were intended to evaluate the effectiveness of zoned mechanical smoke control systems. While not specified in the KA analysis, it appears that data from Plaza Hotel Test 1 and/or Test 5 was used for the unsprinklered fire scenario and data from Test 10 was used for the sprinklered fire scenario. Each of these three fire tests involved burning a 300 lb wood crib in a second floor corridor of the Plaza hotel with no mechanical smoke control systems active and all windows closed. Table 1 and Table 2 below summarize the select relevant data presented in the Klotz study and KA analysis. This data shows movement away from the area of fire origin with and without smoke dampers installed in the model.

Table 1: Klotz Study Results

	Tests 1 and 5	Test 10
Fuel Load	300 lb Wood Crib	300 lb Wood Crib
Test Duration	30 min	30 min
Sprinkler Interaction	No Sprinklers	Quick Response Sprinkler above Wood Crib
Peak Optical Density on Fire Floor (Fig. 24, 25)	3 m^{-1} @ 4 mins ¹	0.1 m^{-1} @ 3 mins
Peak CO Concentration on Fire Floor (Fig. 21)	~6,000 ppm	~200 ppm

The maximum optical density from Tests 1 and 5 was not reported in the Klotz study. This optical density value is estimated based on the CO concentrations, which show a factor of

30 differential between the sprinklered and unsprinklered fire scenarios. This factor of 30 was applied to the maximum optical density value that was reported in the sprinklered fire test (Test 10). This assumption matches the KA analysis which assumed a smoke concentration for the unsprinklered fire scenario that was approximately 30 times the sprinklered scenario.

Table 2: KA Analysis Results

Smoke Concentration on Non-Fire Floor
(presented as % of smoke concentration on Fire Floor)

	Smoke Dampers	Without Smoke Dampers
5 Story Building @ 30 mins	1.37%	25.05%
5 Story Building @ 1 hour	2.51%	40.33%
5 Story Building @ 12 hours	7.78%	64.28%
50 Story Building @ 30 mins	0.11%	2.88%
50 Story Building @ 1 hour	0.21%	5.21%
50 Story Building @ 12 hours	0.69%	15.15%

The most severe conditions on the non-fire floor predicted by the KA analysis consider a 5 story building, no smoke dampers, and a constant smoke concentration on the fire floor over a 12-hour period. This scenario predicted that after 12 hours, the conditions on the non-fire floor, in terms of smoke concentrations, would be 64.28% of the conditions on the fire floor. After 30 minutes of constant conditions on the fire floor, the non-fire floor smoke concentration is 25.05% of that on the fire floor.

It should be noted that the assumption of constant peak smoke conditions for an extended period of time (as much as 12 hours) on the fire floor is extremely conservative. The Klote study data is based on a 30 minute test duration where the peak smoke concentrations (obscuration and CO concentrations) occur at one particular instance during the 30 minute test. Further, a fire burning at a constant rate over a 12 hour period of time would necessitate a fuel load to support such a fire. The most densely packed storage occupancies have fuel loads approaching only 3 or 4 hours.

The KA assumption is particularly conservative when considering the sprinkler controlled fire where Klote’s study indicates that the fire in Test 10 was extinguished about 7 minutes after fire ignition. Klote’s study also indicates that for the unsprinklered fires (Tests 1 and 5) the heat release rate of the fire decreased due to low oxygen levels after approximately 15 minutes as can be seen by the reduction in temperature shown in Figure 12 of the Klote study. So, maintaining a constant fire burning rate over a 30- minute duration is unlikely and is a very conservative assumption, especially in a building like hospitals that is occupied 24/7 by alert staff.

The following tables are intended to assess the degree of tenable conditions that may be present on the non-fire floor (for cases with and without smoke dampers) considering the referenced data from the Klote’s study and the smoke concentration modeling performed in the KA analysis. The data in Table 3 is based on the CONTAM model results for the 5 story building only, which was the most challenging building configuration in terms of smoke concentrations on the non-fire floor.

Table 3: Tenability Analysis- Sprinklered Fire Scenario

Klote Test 10 (Sprinklered Fire)		
Peak Optical Density (D) on Fire Floor (Fig. 24, 25)	0.1 m ⁻¹ @ 3 mins	
Peak CO Concentration on Fire Floor (Fig. 21)	~200 ppm	
Calculated Visibility Based on Optical Density ¹	34.8 m (lighted sign)	
	With Smoke Damper s	Without Smoke Damper s
Predicted CO Concentration on Non-Fire Floor at 30 mins	200 ppm * 1.37% = 3 ppm	200 ppm * 25.05% = 50 ppm
Predicted Visibility on Non-Fire Floor at 30 mins	34.8 m / 1.37% = 2538 m	34.8 m / 25.05% = 138 m
Predicted CO Concentration on Non-Fire Floor at 1 hour	200 ppm * 2.51% = 5 ppm	200 ppm * 40.33% = 81 ppm
Predicted Visibility on Non-Fire Floor at 1 hour	34.8 m / 2.51% = 1385 m	34.8 m / 40.33% = 86 m
Predicted CO Concentration on Non-Fire Floor at 12 hour	200 ppm * 7.78% = 16 ppm	200 ppm * 64.28% = 129 ppm
Predicted Visibility on Non-Fire Floor at 12 hour	34.8 m / 7.78% = 447 m	34.8 m / 64.28% = 54 m

¹ The optical densities (D) reported in the Klote Study were converted to light extinction coefficients (K) by $K=2.3D$ and visibilities (V) were calculated to light-emitting (exit) sign by $V=8/K$.

Table 4: Tenability Analysis- Unsprinklered Fire Scenario

Klote Tests 1 and 5 Data (Unsprinklered Fire)		
Peak Optical Density (D) on Fire Floor (Fig. 24, 25)	3 m ⁻¹ @ 4 min	
Peak CO Concentration on Fire Floor (Fig. 21)	~6,000 ppm	
Calculated Visibility Based on Optical Density ¹	1.2 m (lighted sign)	
	With Smoke	Without Smoke
Predicted CO Concentration on Non-Fire Floor at 30 mins	6,000 ppm * 1.37%	6,000 ppm * 25.05%
Predicted Visibility on Non-Fire Floor at 30 mins	1.2 m / 1.37%	1.2 m / 25.05%

Predicted CO Concentration on Non-Fire Floor at 1 hour	6,000 ppm * 2.51%	6,000 ppm * 40.33%
Predicted Visibility on Non-Fire Floor at 1 hour	1.2 m / 2.51%	1.2 m / 40.33%
Predicted CO Concentration on Non-Fire Floor at 12 hour	6,000 ppm * 7.78%	6,000 ppm * 64.28%
Predicted Visibility on Non-Fire Floor at 12 hour	1.2 m / 7.78%	1.2 m / 64.28%

¹The optical densities (D) reported in the Klote Study were converted to light extinction coefficients (K) by $K=2.3D$ and visibilities (V) were calculated to light-emitting (exit) sign by $V=8/K$.

The KA analysis discusses tenability on the non-fire floor in terms of visibility through smoke. A tenability performance criterion of approximately 10 meters (30 feet) is cited by the KA analysis as a commonly used value. While this visibility criterion is within ranges of visibility criteria for general building applications presented by The SFPE Handbook, 4th edition (Section 2, Chapter 4) Table 2-4.3, a lower criterion of 4 meters is suggested for healthcare occupancies where patients and staff are familiar with their surroundings and egress paths are typically defined by small rooms and corridors as opposed to large open spaces where greater visibility is necessary. Table 2-4.2 of the SFPE Handbook suggest a visibility threshold of 4 meters to allow safe escape when occupants are familiar with their surroundings.

Although not referenced in the KA analysis, tenability is also often measured in terms of carbon monoxide (CO) concentrations. CO is a measure of the toxicity of smoke that occupants are exposed to during evacuation. Carbon monoxide (CO) causes the formation of carboxyhemoglobin in the bloodstream when it is being breathed in the air during exposure. This relationship between exposure time and the concentration of carbon monoxide is dynamic, varying based upon the varying concentrations of CO within the surroundings and the physical condition of the individual. A more detailed discussion of the formation of carboxyhemoglobin can be found in the SFPE Handbook, 4th edition (Section 2, Chapter 6). Figure 2-6.14 of the SFPE Handbook indicates that occupant exposure with an at rest respiratory rate to a carbon monoxide concentration of 2,000 parts per million (ppm) can be experienced for 30 minutes before incapacitation occurs. Based on this relationship between exposure time and concentration, a conservative tenability criterion for carbon monoxide concentrations of 2000 ppm is suggested.

Based on the tenability criteria of 4 meters for visibility and 2000 ppm for CO concentrations, the data in the Klote study for the sprinklered fire indicates that conditions were tenable on the fire floor during the 30 minute fire test as the minimum visibility was measured to be 34.8 meters to a lighted exit sign and a maximum CO concentration of approximately 200 ppm. If the conditions on the fire floor are tenable, then any lower concentrations of smoke on non-fire floors, as predicted by the KA analysis, will also be tenable. This suggests that for sprinkler controlled fires, tenable conditions will be maintained on the non-fire floor, regardless of whether smoke dampers are installed, when considering the assumptions contained in the KA analysis. This is further supported by a study performed by Notarianni, "Measurement of Room Conditions and Response of Sprinklers and Smoke Detectors During a Simulated Two-Bed Hospital Patient Room Fire", NISTIR 5240, 1993 which assessed performance of sprinklers and smoke detectors in typical hospital room configurations. This study concluded that in all tests, with one exception, the sprinklers actuated in the room of fire origin before the patient's life would be threatened. The one exception was the shielded fire test where the

sprinklers activated after untenable conditions were reached in the patient room. This study supports the assertion that in most cases sprinklers will activate and control further growth of the fire before untenable conditions are reached in the room of origin. Therefore, the sprinklers help to control the spread of untenable conditions throughout the building.

The results of for the unsprinklered fire scenario in Table 4 above show a minimum visibility on the non-fire floor of 4.6 meters to a lighted exit sign and a maximum CO concentration of 1503 ppm after 30 minutes of constant peak conditions on the fire floor. Based on the tenability criteria cited above of at least 4 meters of visibility and a maximum CO concentration of 2000 ppm, the conditions after 30 minutes for the unsprinklered fire scenario can also be considered tenable. It should be noted that the lowest visibility conditions in the Klote study occurred no earlier than 4 minutes after fire ignition and the maximum CO concentrations occurred no earlier than 15 minutes after fire ignition. The KA analysis for the 30 minute exposure assumes these most severe conditions on the fire floor from fire ignition (time zero) which indicates that tenable conditions should be maintained on the non-fire floor for more than 30 minutes after fire ignition when considering the delay in the Klote tests from ignition to when the most severe conditions occur in on the fire floor.

For the 1991 edition of NFPA 101, the Subcommittee on Health Care Occupancies performed studies that evaluated the benefits of healthcare occupancies when provided with a fully automatic sprinkler system and quick response sprinkler heads. All new Group I-2 buildings are required to be provided with a fully automatic sprinkler system and QRS. The studies discussed and mentioned above provide further scientific documentation that sprinklers are a more than effective means of mitigating the transfer of smoke beyond smoke compartment walls, as was discussed over twenty years ago.

Additionally, the requirements for interior finishes, decorative materials, mattresses, upholstered furniture, decorative vegetation and other decorative furnishings have become more restrictive in the past twenty years as well. Test standards have been developed to further quantify statistical information regarding the flame spread and smoke development of each of these above items. With these added restrictions within Group I-2 occupancies, the flame spread and smoke development ratings of these have assisted in the reduction of a greater potential event.

This review and analysis of previous fire tests, studies, and performance data provides a basis for justification to omit smoke dampers in new I-2 healthcare facilities. The performance of a building without automatic sprinkler protection has many variables to consider. The analysis above does look at typical non sprinklered scenarios and shows acceptable performance for at least the first 30 minutes. Emergency responders will be on site to assist the staff in a fire response. The recent fire records in healthcare facilities both sprinklered and non sprinklered show an ability to protect the person not intimate with a fire.

Bibliography

(1) *U.S. Experience with Sprinklers and Other Automatic Fire Extinguishing Equipment*, John R. Hall, Jr. P.E. PhD, National Fire Protection Association, 2010

(2) *Structure Fires in Medical, Mental Health, and Substance Abuse Facilities*; Jennifer D. Flynn; National Fire Protection Association; February 2009

Round 1, Issue 5. CORRIDOR WALLS/SMOKE PARTITIONS AND 5A.CEILING SMOKE RESISTANT MEMBRANE

CODE GROUP A – IBC FIRE SAFETY

FSxx-12/13 710.4

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Health Care Committee

Revise as follows:

710.4 Continuity. Smoke partitions shall extend from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke. A lay-in ceiling system that is designed to limit the transfer of smoke shall be permitted. Hold-down clips for such ceilings shall not be required where the ceiling tiles will resist an uplifting force of at least one pound per square foot of tile.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Current interpretation of an allowable ceiling system is to be “monolithic.” This type of ceiling is not feasible in a hospital setting, because main utility and ductwork lines run in the corridor to keep them out of patient care areas. This would facilitate the need for many access panels which compromise the smoke tight nature of the monolithic ceiling. The construction of the lay-in system would basically mean no open portions or gaps in the ceiling, either as an architectural feature or between items such as louvers. Normal ceiling fixtures such as lights, sprinkler heads, and diffusers and grills (as part of a fully ducted air system) can be considered part of the **smoke tight system**, as there is no opportunity for smoke to travel straight through them. A tight fitting lay-in grid is defined as one with no gaps in them, which is easily enforced via visual inspection and is therefore simply maintained.

The one pound per square foot weight can handle an updraft concerns because a facility equipped with **QRS sprinklers** will not generate enough heat to cause the updraft to move the tile. Hold-down clips in this instance would not be necessary, as the weight of the tile itself would be sufficient. Due to the need for access to above ceiling utilities, hold-down clips would interfere with maintenance and operations, which is why an updraft limitation is considered.

Since a fully ducted air handling system is required in the I-2 hospital occupancy, plenum ceilings that compromise the ceiling system are already prohibited.

Notes:

- Need to link reason specifically to technical information from ASHE
- Check for copy write issues
- Is there a conflict between smoke dampers in the issue before and the protection requirements for continuity?
- Dan Nichols described the fire in the Bronx hospital last month. There will be a report coming out this week.
- The scope of the change is broader than indicated in the reason statement.
- Possibly revise 'smoke tight system'
- Should language say something about clips or caulk?
- The change goes past the testing in the smoke study. Check for analysis including pressure with the room to justify the weight of the tile. Maybe look at UL tests for situations where clips could be eliminated.
- The last statement says plenums are prohibited – should say if you have a plenum system, the continuity provisions would not apply.

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Round 1, Issue 6: Ventilation Rates

CODE GROUP A – IMC COMMITTEE

Mxx-12/13

401.2, Table 403.3; 407 (New); Chapter 15

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

1. Revise as follows:

Section 401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. Where the air infiltration rate in a dwelling unit is less than 5 air changes per hour when tested with a blower door at a pressure of 0.2-inch water column (50 Pa) in accordance with Section 402.4.1.2 of the *International Energy Conservation Code*, the dwelling unit shall be ventilated by mechanical means in accordance with Section 403. Ambulatory care facilities and Group I-2 occupancies shall be ventilated by mechanical means in accordance with Section 407.

IMC Table 403.3 MINIMUM VENTILATION RATES				
OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_p CFM/PERSON	AREA OUTDOOR AIRFLOW RATE ON BREATHING ZONE, R_a CFM/FT ^{2 a}	DEFAULT OCCUPANT DENSITY #/1,000 FT ^{2 a}	EXHAUST AIRFLOW RATE CFM/ FT ^{2 a}
Food and beverage service				

Bars, cocktail lounges				
Cafeteria, fast food				
Dining rooms				
Kitchens (cooking) ^b				
Hospitals, Nursing and convalescent homes				
Autopsy rooms^b				
Medical procedure rooms				
Operating rooms				
Patient rooms				
Physical therapy				
Recovery and ICU				
Hotels, motels, resorts and dormitories				
Multipurpose assembly				
Bathrooms/toilets-private ^g				

(Portions of table not shown do not change.)

2. Add new text as follows:

SECTION 407
AMBULATORY CARE FACILITIES AND GROUP I-2 OCCUPANCIES

Section 407.1 General. Mechanical ventilation for ambulatory care facilities and Group I-2 occupancies shall be designed and installed in accordance with this code and ASHRAE 170.

3. Add new referenced standard to Chapter 15:

ASHRAE

Standard Reference Number	Title	Referenced In Code
170-2008	Ventilation of Health Care Facilities (with addendums a through h – 2011)	407.1

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Currently Table 403.3 if the IMC has a limited number of spaces identified with ventilation rates, additionally if a room is not identified in the table then one is required to use the ventilation rate of an adjacent room that is on the list which is problematic if the space usage is vastly different. ASHRAE Standard 170, Table 7-1 has more comprehensive in the spaces that are identified as well as the design parameter requirements. Facility Guidelines Institute (FGI) has also incorporated ASHRAE 170 into the ventilation design requirements at health care facilities. ASHRAE 170 is similar in nature to the IMC referenced standard for the IIAR.

Note: Identify IIAR
ASHRAE 170 will have to be reviewed for mandatory language

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Round 1, Issue 9 FIRE ALARMS - AUDIBLE AND VISIBLE

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

907.2.6 (IBC [F]907.2.6)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

907.2.6 (IBC [F]907.2.6) Group I. A manual fire alarm system that activates the occupant notification system in accordance with Section 907.5 shall be installed in Group I occupancies. An automatic smoke detection system that activates the occupant notification system in accordance with Section 907.5 shall be provided in accordance with Sections 907.2.6.1, 907.2.6.2 and 907.2.6.3.3.

Exceptions:

1. Manual fire alarm boxes in sleeping units of Group I-1 and I-2 occupancies shall not be required at exits if located at all care providers' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.4.2.1 are not exceeded.
2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is approved by the fire code official and staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404.

907.5.2 (IBC [F] 907.5.2) Alarm notification appliances. Alarm notification appliances shall be provided and shall be listed for their purpose.

907.5.2 (IBC [F] 907.5.2.1) Audible alarms. Audible alarm notification appliances shall be provided and emit a distinctive sound that is not to be used for any purpose other than that of a fire alarm.

Exceptions:

1. ~~Visible alarm notification appliances shall be allowed in lieu of audible alarm notification appliances in critical care areas of Group I-2 occupancies~~ Audible alarm notification appliances are not required in critical care areas of Group I-2 hospital occupancies that are in compliance with Section 907.2.6, Exception 2.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The proposed changes are a clarification of the application of 'private mode' signaling as allowed by NFPA 72 and provides linkage to the emergency action plan necessary for 'private mode' to be safely implemented.

The change to Section 907.7.2.6 Exception 2 links the use of "private mode" signaling under NFPA 72 to the emergency action plan portion of the code. The use of private mode appliances relies on a trained staff to respond and provide for occupant evacuation/defend in place actions.

Exception 1 of 907.5.2.1 is proposed for modification to eliminate the requirement for the visible signal and the audible signal in Group I-2 critical areas, operating rooms for example. In private mode, as permitted by Section 907.2.6, Exception 1, there is still a requirement for an audible alarm notification from appliances, though at a much lower decibel level meant to alert staff of the alarm activation. The current language at Section 907.5.2.1, Exception 1 allows that audible alarm to be eliminated from critical care areas (operating rooms) in exchange for a visual notification device. However, the visual signal device also creates a distraction in critical care areas and this proposal is to eliminate the visual alarm notification and to link the exception back to the primary allowance for private mode where we have provided for a link to the emergency action plan.

The emergency plan should reflect the response to the private mode alarm signals including the response necessary in critical care areas and who is responsible for alerting critical care area staff.

Note:

- Need to add exception in 907.5.2.3 to allow for no visible alarms in operating rooms
- Should still allow for option of visible alarms instead of private mode audible alarms.
- In lieu of general alarm throughout suite, have an alarm in a control area, or other alternative device for alarm notification
- ADA allows for hospital alternatives for alarms.

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Round 1, Issue 11: HAZARDOUS MATERIAL LOCATIONS/Incidental use areas

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Table 509

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

1. Revise as follows:

**TABLE 509
INCIDENTAL USES**

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Furnace room where any piece of equipment is over 400,000 Btu per hour input.	1 hour or provide automatic sprinkler system
Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower	1 hour or provide automatic sprinkler system
Refrigerant machinery room	1 hour or provide automatic sprinkler system
Hydrogen cutoff rooms, not classified as Group H	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.
Incinerator rooms	2 hours and provide automatic sprinkler system
Paint shops, not classified as Group H, located in occupancies other than Group F	2 hours; or 1 hour and provide automatic sprinkler system
<u>In Group E occupancies, Laboratories and vocational shops; not classified as Group H, located in Group E or I-2 occupancy</u>	<u>1 hour or provide automatic sprinkler system</u>
<u>In Group I-2 occupancies, laboratories not classified as a Group H</u>	<u>1 hour and provide automatic sprinkler system</u>
<u>In ambulatory care facilities, laboratories not classified as a Group H</u>	<u>1 hour or provide automatic sprinkler system</u>
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
<u>In Group I-2, laundry rooms over 100 square feet</u>	<u>1 hour</u>

Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour
In Group I-2, physical plant maintenance shops.	1 hour
In Group I-2 or ambulatory care facilities, Waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour
In other than ambulatory care facilities and Group I-2, Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2 or ambulatory care facilities, storage rooms greater than 100 square feet	1 hour
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptable power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

2. Add new referenced standard to Chapter 35 as follows:

NEPA

45-2011 Fire Protection for Laboratories Using Chemicals.....Table 509

Reason: Currently, more detail is needed in the Incidental Use table to add spaces currently being maintained in healthcare and ambulatory care occupancies. The above chart makes the noted tables consistent with current operational and programmatic standards in the I-2 occupancy.

The current version of the table does not address the occasion when materials in a laboratory increases, most notably in the aggregate of a larger histology / cytology laboratories. Materials such as xylene, hydrochloric acid, ethanol and fixatives (among others) present in these areas. Although they are stored in gallon and liter quantities, and not bulk storage, the quantities add up over the larger lab control areas when they are in use at the benches. Establishing NFPA 45 is the current reference standard in NFPA 99 since NFPA 99 no longer directly addresses ratings of spaces. Severe hazard laboratories that fall into Class A and B of NFPA 45 have largely been eliminated from Group I-2 occupancies, but in their instance would still be subject to higher classes by virtue of being referenced in this table. The reference to not being Group H occupancy in the table correlates to a Class A or B lab as described in Chapter 4 of NFPA 45. Class C and D labs exist in the Group I-2 occupancies, and are predominantly subject to 1-hour rated construction, or sprinkler coverage as the trade-off in existing. The distinction between two hospital labs is made here in an attempt not to rely wholly on NFPA 45, but provide some guidance as to the distinction between smaller stat labs, largely found in ambulatory care facilities, and larger clinical labs, found in hospitals, is being proposed. Ambulatory care facilities has been added to the current laboratory category to address those support spaces such as stat labs that are set up for a specific time-sensitive purpose, such as blood draw and chemotherapy, to save time in the Group B occupancy setting. Larger scale or non-critical lab operations are typically sent out to proprietary labs from ambulatory facilities. When addressing labs crossing the threshold into one hour rated construction, these labs are typically constructed as stand-alone operations and commonly appear in Group B occupancies anyway, and are subject to the current occupancy separation requirements.

Volume thresholds are being considered in waste and linen collection rooms because basic exam spaces contain some level of waste containers and linen hampers without rising to the level of storage. The 10 cubic foot threshold represents essentially two medium sized linen hampers and/or trash receptacles. Larger linen and waste receptacle containers, and not the smaller containers typically found in an exam room or patient sleeping room, are subject to volume rather than square footage of the room

because a relatively small space, with the 10 cubic foot threshold crossed in a space well below, for example, 100 square feet.

Group I-2 is also being added to the requirement for one hour rating with rooms equipped with padded surfaces. The instance of these rooms existing in a hospital are rare. It is prudent, however, to add the requirement where there is the occasion such rooms are used in areas such as emergency departments, inpatient psychiatric units, or similar.

Physical Plant and Maintenance shops are a very specific function in a hospital building, and is being added to the table to ensure protection due to the stored materials related to the physical plant operation.

Addition of storage rooms as an area requiring 1 hour rated protection is a key functional aspect of a Group I-2 healthcare building. Areas that become unused become storage areas very quickly. Specifically calling out storage areas helps define and control the storage of combustibles, and avoid creating random storage in otherwise unmonitored or unprotected areas.

Areas addressed in the past, but are no longer included in the table, are addressed elsewhere in the IFC. For example, storage of combustible gases is addressed in 5306.2 and has specific references to the Group I-2 occupancy. Gift shops, formerly listed as an incidental area requiring protection, has largely been eliminated from these requirements in the I-Codes and other model codes, and are addressed in the context of being open to the corridor.

In consideration of ambulatory care facilities, where not otherwise specifically called out, categories that are required for both Group B and I occupancies are assumed to cover Group I-2 and ambulatory care facilities. Examples of this interpretation are Hydrogen Cut-Off Rooms and Stationary Battery Storage.

Note:

- Reason should address padded rooms for psychiatric patient care. If the walls meet flame spread and smoke development, is this a hazardous area?
- The provisions in NFPA 45 for hazardous amounts in laboratories is not coordinated with Group H in the IBC (i.e., Class 1 flammable liquids).
- Jeff O'Neill to provide updated reason statement

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Round 1, Issue 11A: HAZARDOUS MATERIAL LOCATIONS/Incidental Uses

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

Section 1106 (New)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

1. Add new text as follows:

SECTION 1106
INCIDENTAL USES

1106.1 General. Incidental uses located within existing single occupancy or mixed occupancy buildings shall comply with the provisions of this section. Incidental uses are ancillary functions associated with a given occupancy that generally pose a greater level of risk to that occupancy and are limited to those uses listed in Table 1106.1.

Exception: Incidental uses within and serving a dwelling unit are not required

to comply with this section.

1106.2 Occupancy classification. Incidental uses shall not be individually classified in accordance with Section 302.1 of the *International Building Code*. Incidental uses shall be included in the building occupancies within which they are located.

1106.3 Area limitations. Incidental uses shall not occupy more than 10 percent of the *building area* of the *story* in which they are located.

1106.4 Separation and protection. The incidental uses listed in Table 1106 shall be separated from the remainder of the building or equipped with an automatic sprinkler system, or both, in accordance with the provisions of that table.

1106.4.1 Separation. Where Table 1106 specifies a fire-resistance-rated separation, the incidental uses shall be separated from the remainder of the building in accordance with Section 509.4.1 of the *International Building Code*.

1106.4.2 Protection. Where Table 1106 permits an automatic sprinkler system without a fire barrier, the incidental uses shall be separated from the remainder of the building by construction capable of resisting the passage of smoke in accordance with Section 509.4.2 of the *International Building Code*.

1106.4.2.1 Protection limitation. Except as specified in Table 1106 for certain incidental uses, where an automatic sprinkler system is provided in accordance with Table 1106, only the space occupied by the incidental use need be equipped with such a system.

**TABLE 1106.1
INCIDENTAL USES**

<u>ROOM OR AREA</u>	<u>SEPARATION AND/OR PROTECTION</u>
<u>Furnace room where any piece of equipment is over 400,000 Btu per hour input.</u>	<u>1 hour or provide automatic sprinkler system</u>
<u>Rooms with boilers where the largest piece of equipment is over 15 psi and 10 horsepower</u>	<u>1 hour or provide automatic sprinkler system</u>
<u>Refrigerant machinery room</u>	<u>1 hour or provide automatic sprinkler system</u>
<u>Hydrogen cutoff rooms, not classified as Group H</u>	<u>1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.</u>
<u>Incinerator rooms</u>	<u>2 hours and provide automatic sprinkler system</u>
<u>Paint shops, not classified as Group H, located in occupancies other than Group F</u>	<u>2 hours; or 1 hour and provide automatic sprinkler system</u>
<u>In ambulatory care facilities or Group E or I-2 occupancies, Laboratories and vocational shops, not classified as Group H</u>	<u>1 hour or provide automatic sprinkler system</u>
<u>In Group I-2, laboratories not classified as Group H, but classified as a Class A or B laboratory in accordance with Chapter 4 of NFPA 45,</u>	<u>1 hour and provide automatic sprinkler system</u>
<u>Laundry rooms over 100 square feet</u>	<u>1 hour or provide automatic sprinkler system</u>

Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour or provide automatic sprinkler system
In Group I-2 physical plant maintenance shops.	1 hour or provide automatic sprinkler system
In Group I-2 or ambulatory care facilities, Waste and linen collection rooms with containers that have an aggregate volume of 10 cubic feet or greater	1 hour or provide automatic sprinkler system
In other than Group I-2 and ambulatory care facilities, Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2 or ambulatory care facilities, storage rooms greater than 100 square feet	1 hour or provide automatic sprinkler system
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptable power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

2. Add new referenced standard to Chapter 80 as follows:

NFPA

45-2011 Fire Protection for Laboratories Using Chemicals.....Table 1106.1

Note: Make this change revised to coordinate with IBC change – take out reference to NFPA 45

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This table is being introduced into the IFC to help clarify the requirements for ratings in buildings not related to a new construction project. This is the same table as IBC Table 509, with new proposals specific to Group I-2 occupancies. The above chart makes the noted tables consistent with current operational and programmatic standards in the I-2 Hospital occupancy.

This table addresses the occasion when materials in a laboratory increases, most notably in the aggregate of a larger histology / cytology laboratories. Materials such as xylene, hydrochloric acid, ethanol and fixatives (among others) are present in these areas. Although they are stored in gallon and liter quantities, and not bulk storage, the quantities add up over the larger lab areas when they are in use at the benches. NFPA 45 is the current reference standard in NFPA 99 since NFPA 99 no longer directly addresses ratings of spaces. Severe hazard laboratories that fall into Class A and B of NFPA 45 have largely been eliminated from Group I-2 occupancies, but in their instance would still be subject to higher classes by virtue of being referenced in this table. The reference to not being a Group H occupancy in the table correlates to a Class A or B lab as described in Chapter 4 of NFPA 45. Class C and D labs exist in the Group I-2 occupancies, and are predominantly subject to 1-hour rated construction, or sprinkler coverage as the trade-off in existing. The distinction between two labs is made here in an attempt not to rely wholly on NFPA 45, but provide some guidance as to the distinction between smaller stat labs and larger clinical labs. Ambulatory care facilities has been added to the current laboratory category to address those support spaces such as stat labs that are set up for a specific purpose to save time in the Group B occupancy setting. Larger scale lab operations are typically sent out to proprietary labs from ambulatory facilities. When addressing labs crossing the threshold into one hour rated construction, these labs are typically constructed as stand-alone operations and commonly appear in Group B occupancies anyway, and are subject to the current occupancy separation requirements.

Volume thresholds are being considered because basic exam spaces contain some level of waste containers and linen hampers without rising to the level of storage. The 10 cubic foot threshold in waste and linen collection rooms represents essentially two medium sized linen hampers and/or trash receptacles. Larger linen and waste receptacle containers, and not the smaller containers typically found in an exam room or patient sleeping room, are subject to volume rather than square footage of the room because a relatively small space, with the 10 cubic foot threshold crossed in a space well below, for example, 100 square feet.

Addition of storage rooms as an area requiring 1 hour rated protection is a key functional aspect of a Group I-2 healthcare building. Areas that become unused become storage areas very quickly. Specifically calling out Storage areas helps define and control the storage of combustibles, and avoid creating random storage in otherwise unmonitored or unprotected areas. Use of the term *combustibles* is used in the table to draw distinction of storage rooms versus equipment staging rooms. Often, non-combustible material such as lifts, IV poles, or other metallic items that do not have an electrical source are staged in rooms that do not represent sources of fire ignition.

Areas addressed in the past, but are no longer included in the table, are addressed elsewhere in the IFC. For example, storage of combustible gases is addressed in 5306.2 and has specific references to the Group I-2 occupancy. Gift shops, formerly listed as an incidental area requiring protection, has largely been eliminated from these requirements in the I-Codes and other model codes, and are addressed in the context of being open to the corridor.

In consideration of ambulatory care facilities, where not otherwise specifically called out, categories that are required for both B and I occupancies are assumed to cover Group I-2 occupancies and ambulatory care facilities. Examples of this interpretation are Hydrogen Cut-Off Rooms and Stationary Battery Storage.

Note: Match IBC change

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Round 1, Issue 12 ALCOHOL-BASED HAND RUB DISPENSERS IN PATIENT ROOMS (See also K-tag K211)

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

5705.5, 5705.5.1

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

5705.5 Alcohol-based hand rubs classified as Class I or II liquids. The use of wall-mounted dispensers containing alcohol-based hand rubs classified as Class I or II liquids shall be in accordance with all of the following:

1. The maximum capacity of each dispenser shall be 68 ounces (2 L).
2. The minimum separation between dispensers shall be 48 inches (1219 mm).
3. The dispensers shall not be installed ~~directly adjacent to, directly above, or below, or closer than 1 inch to~~ an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor or intervening counter top shall be free remain clear and unobstructed of electrical receptacles, switches, appliances, devices, or other ignition sources.
4. Dispensers shall be mounted so that the bottom of the dispenser is a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) above the finished floor.
5. Dispensers shall not release their contents except when the dispenser is manually activated. Facilities shall be permitted to install and use automatically activated “touch free” alcohol-based hand-rub dispensing devices with the following requirements:
 - 5.1. The facility or persons responsible for the dispensers shall test the dispensers each time a new refill is installed in accordance with the manufacturer’s care and use instructions.
 - 5.2. Dispensers shall be designed and must operate in a manner that ensures accidental or malicious activations of the dispensing device are minimized. At a minimum, all devices subject to or used in accordance with this section shall have the following safety features:
 - 5.2.1. Any activations of the dispenser shall only occur when an object is placed within 4 inches (98 mm) of the sensing device.
 - 5.2.2. The dispenser shall not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the United States Food and Drug Administration (USFDA).

- 5.2.3. An object placed within the activation zone and left in place will cause only one activation.
6. Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 5704 and 5705.
7. Dispensers installed in occupancies with carpeted floors shall only be allowed in smoke compartments or fire areas equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

5705.5.1 Corridor installations. In addition to the provisions of Section 5705.5, W where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors or rooms and areas open to the corridor, they shall be in accordance with all of the following:

1. Level 2 and 3 aerosol containers shall not be allowed in corridors.
2. The maximum capacity of each Class I or II liquid dispenser shall be 41 ounces (1.21 L) and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg).
3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1,135 ounces (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one.
4. The minimum corridor width shall be 72 inches (1829 mm).
5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Section 5705.5(3): Because ABHR dispensers are often installed above fixed casework countertops, Section 5705.5(3) is being revised to address the practical issue

of clearances from the dispenser to ignition sources associated with above-the-countertop installation. Establishing the minimum clearance requirements provides clarity to the fire code official and to designers and facility administrators.

5705.5.1: As part of the institution’s infection control protocol, many places where ABHR dispensers are installed in healthcare facilities are areas that are open to the corridor as permitted by Section 407 of the *International Building Code*. As such, this section is being revised to include such areas.

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Round 1, Issue 12A ABHR’s Exempted from MAQ

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

Table 5003.1.1(1) [IBC Table [F]307.1(1)]

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

**TABLE 5003.1.1(1) [IBC Table [F] 307.1(1)]
MAXIMUM ALLOWABLE QUANTITY PER CONTROL AREA OF HAZARDOUS MATERIALS POSING A PHYSICAL HAZARD^{a, j, m, n, p}**

MATERIAL	CLASS	GROUP WHEN THE MAXIMUM ALLOWABLE QUANTITY IS EXCEEDED	STORAGE ^b			USE-CLOSED SYSTEMS ^b			USE-OPEN SYSTEMS ^b	
			Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)	Gas cubic feet at NTP	Solid pounds (cubic feet)	Liquid gallons (pounds)

(Portions of table not shown do not change.)

For SI: 1 cubic foot = 0.028 m³, 1 pound = 0.454 kg, 1 gallon = 3.785 L.
NL = Not Limited; N/A = Not Applicable; UD = Unclassified Detonable

- a. through o. (No change to current text)
- p. The following shall not be included in determining the maximum allowable quantities:
 1. Liquid or gaseous fuel in fuel tanks on vehicles.
 2. Liquid or gaseous fuel in fuel tanks on motorized equipment operated in accordance with this code.
 3. Gaseous fuels in piping systems and fixed appliances regulated by the *International Fuel Gas Code*.
 4. Liquid fuels in piping systems and fixed appliances regulated by the *International Mechanical Code*.
 5. Alcohol based hand rubs classified as Class I or II liquids in dispensers where installed in accordance with Sections 5705.5 and 5705.5.1.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code

issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The proposed change to the Maximum Allowable Quantity table excludes alcohol-based hand rub (ABHR) liquids from the MAQ's, but requires the amount of ABHR liquid to comply with the *International Fire Code* Section 5705.5. This will allow a reasonable amount of alcohol-based hand rub for infection control to be located in Group I-2 Hospitals. IFC Section 5705.5 addresses the specifics regarding the amounts allowed and locations.

The IFC has historically exempted certain materials in specific and defined circumstances from being considered in the maximum allowable quantities limitations for hazardous materials. The Adhoc Committee on Health Care is proposing this modification to allow the Alcohol Based Hand Rub (ABHR) commodities to be excluded from the aggregate allowable quantities limited by Table 5003.1.1(1) (IBC [F] Table 307.1) for a number of critical life and operational safety issues required to be provided within healthcare facilities.

- The material utilized in the ABHR Dispensers is being proposed to be excluded from maximum allowable quantities because the fire and safety risk is limited and nearly abated by the specific controls for their installations, conditions of use, approval of locations, and the quantity limitations contained within each approved dispenser as required by IFC Section 5705.5.
- The extensive use and infection control necessity for the placement of the ABHR dispensers is vital to the life safety and health of the occupants; in healthcare facilities, the aggregate quantities of the dispensers in use for nearly any patient care area would exceed the allowable limits of Class IA or Class IB liquids.
- The exclusion from the quantity limitations is for the material commodities located within the approved and permanently installed ABHR dispensing containers. This does not include the exclusion of any materials being stored.

One of the critical success factors in limiting the spread of infections in hospitals is hand hygiene. The use of ABHRs has improved compliance for both staff and visitors with hand hygiene standards. This product provides an easy way for hospitals to provide hygiene at convenient locations without installing sinks. Currently, locations and installation practices have been identified that limit the risk of fire by these products. This practice helps reduce the spread of infections between patients and thus reducing complications and mortality of patients being treated in hospitals. We are not aware of any fires related to the use of these devices.

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Round 1, Issue 14 Fire Safety and Evacuation Plans (See Also K-tag 50)

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

404.2, 404.3.1, 404.3.2; 408.3, 408.3.1, 408.3.2 (New); 408.6; 408.6.1, 408.6.2, 408.6.3 (New)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

SECTION 404 FIRE SAFETY AND EVACUATION PLANS

404.1 General. Fire safety, evacuation and lockdown plans and associated drills shall comply with the requirements of Sections 404.2 through 404.5.1.

404.2 Where required. An *approved* fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings:

1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an *occupant load* less than 2,000.
2. Group B.
 - 2.1 . Buildings having an ambulatory care facility.
 - 2.2. Buildings having an *occupant load* of 500 or more *persons* or more than 100 *persons* above or below the lowest *level of exit discharge*.
3. through 15. (No change to current text.)

404.3 Contents. Fire safety and evacuation plan contents shall be in accordance with Sections 404.3.1 and 404.3.2.

404.3.1 Fire evacuation plans. Fire evacuation plans shall include the following:

1. Emergency egress or escape routes and whether evacuation of the building is to be complete, ~~or, where approved,~~ by selected floors or areas only, or with a defend-in-place response.
2. Procedures for employees who must remain to operate critical equipment before evacuating.
3. Procedures for assisted rescue for persons unable to use the general *means of egress* unassisted.
4. Procedures for accounting for employees and occupants after evacuation has been completed.
5. Identification and assignment of personnel responsible for rescue or emergency medical aid.
6. The preferred and any alternative means of notifying occupants of a fire or emergency.

7. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
8. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
9. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

404.3.2 Fire safety plans. Fire safety plans shall include the following:

1. The procedure for reporting a fire or other emergency.
2. The life safety strategy including the following:
 - 2.1 ~~and~~ Procedures for notifying occupants, including areas with a private mode alarm system.
 - 2.2 Procedures for relocating occupants under a defend-in-place response.
 - 2.3 Procedures for evacuating occupants, including occupants who need assistance.
3. Site plans indicating the following:
 - 3.1. The occupancy assembly point.
 - 3.2. The locations of fire hydrants.
 - 3.3. The normal routes of fire department vehicle access.
4. Floor plans identifying the locations of the following:
 - 4.1. Exits.
 - 4.2. Primary evacuation routes.
 - 4.3. Secondary evacuation routes.
 - 4.4. Accessible egress routes.
 - 4.5. Areas of refuge.
 - 4.6. Exterior areas for assisted rescue.
 - 4.7. Manual fire alarm boxes.
 - 4.8. Portable fire extinguishers.
 - 4.9. Occupant-use hose stations.
 - 4.10. Fire alarm annunciators and controls.
5. A list of major fire hazards associated with the normal use and occupancy of the premises, including maintenance and housekeeping procedures.
6. Identification and assignment of personnel responsible for maintenance of systems and equipment installed to prevent or control fires.
7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

IFC 405.2 Frequency. Required emergency evacuation drills shall be held at the intervals specified in Table 405.2 or more frequently where necessary to familiarize all occupants with the drill procedure.

**TABLE 405.2
FIRE AND EVACUATION DRILL
FREQUENCY AND PARTICIPATION**

GROUP OR OCCUPANCY	FREQUENCY	PARTICIPATION
Group B ^{c,d}	Annually	Employees
Group R-2 ^{d-e}	Four annually	All occupants

(Portions of table not shown do not change.)

- a. The frequency shall be allowed to be modified in accordance with Section 408.3.2.
- b. Fire and evacuation drills in residential care assisted living facilities shall include complete evacuation of the premises in accordance with Section 408.10.5. Where occupants receive habilitation or rehabilitation training, fire prevention and fire safety practices shall be included as part of the training program.
- c. Emergency evacuation drills are required in Group B buildings having an occupant load of 500 or more persons or more than 100 persons above or below the lowest level of exit discharge.
- d. Emergency evacuation drills are required in ambulatory care facilities in accordance with Section 408.3.
- d-e. Applicable to Group R-2 college and university buildings in accordance with Section 408.3 4.

SECTION 408 USE AND OCCUPANCY RELATED REQUIREMENTS

IFC 408.3 Ambulatory Care Facilities. Ambulatory Care Facilities shall comply with the requirements of Sections 408.3.1 through 408.3.3 and Section 401 through 406.

IFC 408.3.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff actions. This shall include procedures for stabilizing patients in a defend in place response, staged evacuation, or full evacuation in conjunction with the entire building if part of a multi-tenant facility.

IFC 408.3.2 Fire safety plan. A copy of the plan shall be maintained at the facility at all times. Plan shall include the following in addition to the requirements of Section 404:

1. Locations where patients are located who are rendered incapable of self preservation
2. Maximum number of patients rendered incapable of self preservation.
3. Area and extent of each Ambulatory Care Facility.
4. Location of adjacent smoke compartments or refuge areas, if required.
5. Path of travel to adjacent smoke compartments.
6. Location of any special locking, delayed egress or access control arrangements.

IFC 408.3.3 Staff training. Employees shall be periodically instructed and kept informed of their duties and responsibilities under the plan. Such instruction shall be reviewed by the staff at least every two months. A copy of the plan shall be readily available at all times within the facility.

IFC 408.3.4 Emergency Evacuation Drills. Emergency evacuation drills shall comply with Section 405. Emergency evacuation drills shall be conducted at least four times per year.

Exceptions: The movement of patients to safe areas or to the exterior of the building is not required.

(Renumber subsequent Sections)

IFC 408.6 Group I-2. Group I-2 occupancies shall comply with the requirements of Sections 408.6.1 through 408.6.3 and Section 401 through 406. Drills are not required to comply with the time requirements of Section 405.4.

IFC 408.6.1 Fire evacuation plans. The fire safety and evacuation plans required by Section 404 shall include a description of special staff actions. Plan shall include the following in addition to the requirements of Section 404.

1. Procedures for evacuation for patients with needs for containment or restrained and post evacuation containment, if present.
2. A written plan for maintenance of the means of egress.
3. Procedure for a defend-in-place strategy.
4. Procedures for a full floor or building evacuation, if necessary.

IFC 408.6.2 Fire safety plans. A copy of the plan shall be maintained at the facility at all times. Plans shall include the following in addition to the requirements of Section 404:

1. Location and number of any patient sleeping rooms and operating rooms.
2. Location of adjacent smoke compartments or refuge areas.
3. Path of travel to adjacent smoke compartments.
4. Location of any special locking, delayed egress or access control arrangements.
5. Location of elevators utilized for patient movement in accordance with the fire safety plan, if provided.

IFC 408.6.3 Emergency Evacuation Drills. Emergency evacuation drills shall comply with Section 405.

Exceptions:

1. The movement of patients to safe areas or to the exterior of the building is not required.
2. When emergency evacuation drills are conducted after visiting hours or when patients or residents are expected to be asleep, a coded announcement shall be permitted instead of audible alarms.

IFC 408.6.1 Evacuation not required. During emergency evacuation drills, the movement of patients to safe areas or to the exterior of the building is not required.

IFC 408.6.2 Coded alarm signal. ~~When emergency evacuation drills are conducted after visiting hours or when patients or residents are expected to be asleep, a coded announcement is allowed instead of audible alarms.~~

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This code change proposal clarifies the code by accurately describing the documentation needed to understand the typical “defend in place” method of occupant protection. Defend-in-place is a widely used approach to protecting occupants who are bedridden, unconscious or otherwise unable to self-preserve in a fire event. The method relies on both active and passive fire protection systems as well as the actions of trained staff and responders. The heavy emphasis on staff action requires a comprehensive fire safety and evacuation plan.

Any building containing an ambulatory healthcare occupancy will, by definition, contain occupants who may be incapable of self preservation. The intent of the current IBC requirements for ambulatory care is to create a type of defend-in-place environment. Fire safety and evacuations must be developed, reviewed and approved to support this strategy.

The reference to “defend-in-place” is added in Section 404.3.1 to recognize the defend-in-place method. This is not a new concept. The IBC and legacy codes have been written to support this concept for years, yet the code did not name or describe the concept.

Fire safety plans should describe in the life safety strategy the method of notifying occupants, including the use of a private mode alarm system as allowed by code. Procedures for dealing with occupants in a defend-in-place strategy should also be described for staff training.

The new Section 408.3 adds requirements for how to create fire safety and evacuation plans Ambulatory Care Facilities. This section does not include great detail, as there are many successful ways to approach a defend in place response. Rather, this section describes the minimum amount of information necessary aid in the review of facility and the plan. Fire evacuations plan are required to describe the special actions of staff, especially staff that must stabilize a patient prior to moving. This will be the basis of the staff education and training. This will also help the code official understand the expected performance of the building.

It is imperative that the building and fire official know the size and location of the facility as well as the number of patients who are incapable of self preservation. This information will help the building official determine the proper classification and mitigations required. It will also allow the fire official to preplan the response for a particular building. Any special characteristics of the means of egress, such as path to the adjacent smoke compartment and special locking arrangements should also be described to aid in verifying code compliance. Practically these documents will be the basis for staff training as well.

Section 408.6 has been rewritten to accurately reflect the needs and the current practice for this occupancy type. Much like the new section for ambulatory care, this section requires the facility to describe the special actions of staff. Due to the special nature of some facilities, specific requirements are made locations where patients are restrained. Since these facilities contain a large number of carts, beds, and other mobile equipment a written plan for maintenance of the means of egress is required. This would address the practical operational needs of the facility while ensuring that the means of egress can be maintained free of obstructions. While these facilities are defend in place, catastrophic failure may require full evacuation. Facilities are asked to describe this procedure so that the first responders can preplan.

Fire safety plans are required to show the location of area where incapable patients are likely to be. They are required to show the location of smoke compartments, routes of travel, patient movement elevators and any locking constraints that might affect the horizontal evacuation of patients. All of these will be essential to robust staff training as well as operational planning for first responders.

Finally, the requirements for emergency evacuation drill have been merged into a single subsection for clarity. The only functional change is to delete the exception which would have allowed drills to not comply with the time requirements of Section 405.4. The committee felt that holding drill at unexpected time and varying conditions was a crucial component of staff training.

These requirements, while new to the fire code, have been a widely accepted practice in the facilities for years. This code change proposal has been reviewed by representatives from both the hospital and nursing home industry who have given their support to these changes.

Note:

- The reason statement needs to clarify that all ambulatory care facilities have to have a plan, not just where separation is required by 422.
- **Need to review all changes to make sure we want provisions to apply to definition and not to separation.**

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GENERAL WORK GROUP REPORT

PART I – ROUND ONE ISSUES CODE CHANGE DRAFTS

Introduction: The following code change proposal drafts are organized numerically by Round 1 issues. To help focus on the more pressing code change deadline for Group A code changes, here is how these proposals divide among Group A and Group B codes:

Group A: Round 1, Issues 2, 3, 4, 9, 12

Group B: Round 1, None

NOTE that the ICC-CTC has joined as a co-sponsor on Round 1, Issues 2, 9 and 12.

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Round 1, Issue 2: DEFEND IN PLACE

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

IBC AND IFC Add a new definition as follows:

DEFEND IN PLACE. A method of emergency response that engages building components and trained staff to provide occupant safety during an emergency. Emergency response involves remaining in place, relocating within the building, or both, without evacuating the building.

IBC 407.4 Means of egress. Group I-2 occupancies shall be provided with a means of egress complying with Chapter 10 and Sections 407.4.1 through 407.4.3. The fire safety and evacuation plans provided in accordance with Section 1001.4 shall identify the building components necessary to support a *defend in place* emergency response in accordance with IFC Sections 404 and 408.

IBC 422.3.1 Means of egress. Where ambulatory care facilities require smoke compartmentation in accordance with Section 422.3 the fire safety evacuation plans provided in accordance with Section 1001.4 shall identify the building components necessary to support a *defend in place* emergency response in accordance with IFC Sections 404 and 408.

~~The following is unclear what the exceptions are focused upon.~~

~~**IBC/IFC1003.6 Means of egress continuity.** The path of egress travel along a means of egress shall not be interrupted by any building element other than a means of egress component as specified in this chapter. Obstructions shall not be placed in the required width of a means of egress except projections permitted by this chapter. The required capacity of a means of egress system shall not be diminished along the path of egress travel.~~

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](#), a subsidiary of the American Hospital

Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This code change defines a commonly used concept with a broadly accepted term for use with Group I-2 and identifies several instances where the defend in place concept should be permitted and recognized.

Defend in place, or protect in place, is a concept that has long been employed as the preferred method of fire response in hospitals due to the fragile nature of the occupants. Occupants in this setting are often dependent upon the building infrastructure and immediate evacuation would place their lives at risk. This infrastructure typically includes life support systems such as medical gases, emergency power, and environmental controls that rely on continued building operation. Previous versions of this code and legacy codes have created a tried and tested set of requirements to support this concept, such as smoke compartmentation and areas of refuge. However, previous codes have not specifically described the concept of occupants remaining within a building during a fire emergency which leads to confusion and misapplication during design and enforcement.

This change identifies Group I-2 as a location where this type of emergency response is permitted. The codes governing hospitals, nursing homes, and other Group I-2 classes are designed to support the defend in place use. While the code has been silent on the underlying concept, the defend in place strategy has been the commonly accepted practice in these facilities. When the new Ambulatory Care Facilities section was being drafted, the goal was to create a type of defend in place. Defend in place is only appropriate when smoke compartments are created, therefore the allowance to use this strategy is predicated on the smoke compartmentation section.

A proposal is being submitted to the IFC to clarify further the defend in place concept in Section 404 and 408. [Should we place draft IFC proposal here]

(Topic 2 – General WG)

Round 1, Issue 3: SIZE OF COMPARTMENTS (1 of 2)

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

(IBC)Revise as follows:

407.5 Smoke barriers. *Smoke barriers* shall be provided to subdivide every *story* used by persons receiving care, treatment or sleeping and to divide other *stories* with an *occupant load* of 50 or more persons, into no fewer than two *smoke compartments*. Such *stories* shall be divided into *smoke compartments* with an area of not more than 22,500-square feet (2092 m²) in Group I-2 occupancies and not more than 40,000 square feet in Group I-2 hospitals and the

travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be in accordance with Section 709.

Reason:

This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.iccsafe.org/cs/AHC/Pages/default.aspx), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

This code change addresses outdated code material. Historically, smoke compartment size has been driven by the allowable travel distance within the smoke compartment. Past code changes have increased the travel distance without a corresponding change in smoke compartment size. Secondly, the size of the functional patient areas has increased, but the occupant load has remained the same or has been reduced. Therefore, we are asking for an increase in smoke compartment size to accommodate the operational needs of the modern hospital.

A summary of the history of smoke compartment requirements is as a requirement is as follows:

- October 1984 BCMC – Maximum length and width equals 150 feet.
- 1987 BOCA – 610.5 – Maximum length and width equals 150 feet
- 1992 BOCA Supplement – 610.4 – 22,500 square feet, with maximum travel distance of 150 feet.
- Code Change No. B20-95 – 22,500 square feet, with maximum travel distance proposed to be increased to 200 feet.
- 1996 BOCA – 409.4 - 22,500 square feet, with maximum travel distance of 200 feet.
- 2000 IBC – 407.4 - 22,500 square feet, with maximum travel distance of 200 feet.

Originally, there was no limit to smoke compartment size, other what was imposed by travel distance. The 22,500 square foot requirement was based on the old travel distance requirement of 150 feet, and used it to extrapolate an area (150ft x150ft = 22,500 square feet). This proposal uses the same logic and applies the current 200 foot travel distance maximum (200ft x200ft), resulting in a 40,000 square foot smoke compartment. This proposal would maintain the existing requirement that each floor be divided into two smoke compartments. Practically the requirement for 200' travel distance within smoke compartments will still drive smaller smoke compartment sizes in some cases.

Over the past 20 years, there has been a steady increase in the size of patient treatment rooms in hospitals. The primary reason for the increase is the equipment and utilities necessary for the treatment of a patient, such as patient monitoring, gases, and diagnostics equipment, while maintaining space for staff access to the patient. In response, the widely adopted and enforced “*Guidelines for the Design and Construction of Health Care Facilities*” from the FGI Institute have also increased, making these operational considerations actual code requirements. In the case of the inpatient units, the adoption of a single bed in a patient room has had the largest impact on square footage, while not significantly increasing the number of occupants on the unit.

The concept of an “individual patient space” is becoming the standard design in other types throughout the hospital. Many emergency departments are opting for private patient exam spaces with hard walls, primarily for infection control and patient privacy considerations. Similarly, radiology areas are being driven by technology and clearance issues which go beyond the required minimums, and have impacts on square footages to achieve clearances. In some units, there has also been an increase in the types of required support spaces, including ratios of equipment storage per treatment room, the increased importance of computer equipment rooms, and various staff areas. However, support spaces have remained largely the same, while the main increases have been in the size of the patient treatment areas themselves. While these spaces have been increasing in size, the smoke compartment size requirements have been left unchanged in the building codes.

When studying the contemporary sizes of functions such as emergency departments, radiology operations, and bed units, the larger size allows for greater visualization from the staff to the patient, which is a crucial aspect of planning a patient area. This operational consideration could more easily be achieved before the increase in patient areas, but the same operational considerations require an increase to the smoke zone size to match contemporary requirements, delivery of care and technologies. Attached is a study of space programs which compare the 2010 Guideline requirements with the 1996-97 Guidelines. In short, today’s hospital takes more square footage to care for the same amount of patients. These programs demonstrate the need to increase to 40,000 square foot smoke compartment.

[Link to documentation on adhoc healthcare website – excel spread sheet]

Note:

- Additional justification needed in reason statements to address concerns from Ed and Rick.
- Remind people that this is still two smoke compartments, refuge area size, visuals for patient care areas.
- Address time needed to relocate more patients

Round 1, Issue 3: SIZE OF COMPARTMENTS (2 of 2)

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

IBC Revise as follows:

422.3 Smoke compartments. Where the aggregate area of one or more *ambulatory care facilities* is greater than 10,000 square feet (929 m²) on one *story*, the *story* shall be provided with a *smoke barrier* to subdivide the *story* into no fewer than two *smoke compartments*. The area of any one such *smoke compartment* shall be not greater than ~~40,000~~ 22,500 square feet (2092 m²). The travel distance from any point in a *smoke compartment* to a *smoke barrier* door shall be not greater than 200 feet (60 960 mm). The *smoke barrier* shall be installed in accordance with Section 709 with the exception that *smoke barriers* shall be continuous from outside wall to an outside wall, a floor to a floor, or from a *smoke barrier* to a *smoke barrier* or a combination thereof.

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.ahc-engineering.org), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Intent and Summary

This code change addresses outdated code material. Historically, smoke compartment size has been driven by the allowable travel distance within the smoke compartment. Past code changes have increased the travel distance without a corresponding change in smoke compartment size. Secondly, the size of the functional patient areas has increased, but the occupant load has remained the same or has been reduced. Therefore, we are asking for an increase in smoke compartment size to accommodate the operational needs of these facilities.

A summary of the history of smoke compartment requirements is as follows:

- October 1984 BC/MC – No area limitations. Maximum length and width equals 150 feet.

- 1987 BOCA – 610.5 – No area limitations. Maximum length and width equals 150 feet
- 1992 BOCA Supplement – 610.4 – 22,500 square feet, with maximum travel distance of 150 feet.
- Code Change No. B20-95 – 22,500 square feet, with maximum travel distance proposed to be increased to 200 feet.
- 1996 BOCA – 409.4 - 22,500 square feet, with maximum travel distance of 200 feet.
- 2000 IBC – 407.4 - 22,500 square feet, with maximum travel distance of 200 feet.

Originally, there was no limit to smoke compartment size, other what was imposed by travel distance. The 22,500 square foot requirement was based on the old travel distance requirement of 150 feet, and used it to extrapolate an area (150ft x150ft = 22,500 square feet). This proposal uses the same logic and applies the current 200 foot travel distance maximum (200ft x200ft), resulting in a 40,000 square foot smoke compartment. This proposal would maintain the existing requirement that each floor be divided into two smoke compartments. Practically the requirement for 200' travel distance within smoke compartments will still drive smaller smoke compartment sizes in some cases.

The application of the smoke compartment size for Ambulatory Care facilities was taken from the hospital requirement in Section 407. There was no specific reason given for using 22,500 square feet as a threshold other than mirroring the hospital requirement.

When studying the contemporary sizes of functions within ambulatory surgery areas, the area provided has increased. Attached is a study of space programs which compare the 2010 Guideline requirements with the 1996-97 Guidelines. In short, today's ambulatory surgery facility takes more square footage to care for the same amount of patients. These programs demonstrate the need to increase to 40,000 square foot smoke compartment.

[[Link to documentation on adhoc healthcare website – excel spread sheet](#)]

Note: Same addition to reason as for hospital compartment size

(Topic 3 – General WG)

Round 1, Issue 4: USE OF FACILITIES DURING RENOVATIONS

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

(IBC) Add new text as follows:

3304.8 Group I-2. For buildings employing a *defend in place* method in Group I-2 occupancies, an on-site fire watch shall be provided in accordance with the Section 901.7 of the *International Fire Code*.

3311.3 Group I-2. Temporary construction within corridors serving bed or stretcher movement in Group I-2 occupancies shall not reduce the corridor width to less than 60 inches.

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.icsafe.org/cs/AHC/Pages/default.aspx), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.icsafe.org/cs/AHC/Pages/default.aspx>.

This change clarifies the code. Facilities that must remain operational during due to the critical nature of the service that they provide it is not feasible to evacuate the building for renovations. Healthcare facilities are routinely preplanning construction projects as to how the project will affect various fire and life safety functions and features in the building during the project.

However, this section reminds the plan reviewer to coordinate with the fire official for planned shut downs of fire safety equipment and provides an opportunity for the AHJ's to determine the appropriate interim life safety measures to ensure continued operation.

Temporary construction barriers are an operational necessity to contain construction dust, provide infection control, and prevent public entry into potentially hazardous areas. These barriers are required by facility infection control staff, industrial hygienists and other regulatory agencies. A new section of code is added to clarify that temporary construction may not reduce the corridor width to less than 60 inches where bed or stretcher movement is used. This temporary condition will allow for reasonable infection control protection and maintain an appropriate corridor width.

(Topic 4 – General WG)

Round 1, Issue 9 MIXED USE AND ACCESSORY OCCUPANCY PROVISIONS (1 of 2)

CODE GROUP A – IBC MOE COMMITTEE

Exx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

(IBC) Revise as follows:

1018.2 Width. The minimum width of *corridors* specified in Table 1018.2 shall be as determined in Section 1005.1.

Exception: In Group I-2 occupancies, corridors are not required to have a clear width of 96 inches (2438 mm) in areas where there will not be stretcher or bed movement for access to care or as part of the defend in place strategy.

Table 1018.2
MINIMUM CORRIDOR WIDTH

Occupancy	Width (min)
Any facilities not listed below	44 inches (1118 mm)
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24 inches (610 mm)
With a required occupancy capacity less than 50	36 inches (914 mm)
Within a dwelling unit	36 inches (914 mm)
In Group E with a <i>corridor</i> having a required capacity of 100 or more	72 inches (1829 mm)
In <i>corridors</i> and areas serving gurney traffic in occupancies where patients receive outpatient medical care, which causes the patient to be incapable of <i>self-preservation</i>	72 inches (1829 mm)
Group I-2 in areas where required for bed movement	96 inches (2438 mm)

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.iccsafe.org/cs/AHC/Pages/default.aspx), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>. Since hospitals typically include accessory spaces or non separated mixed use occupancies that are not patient care, the code official should have the clear ability to apply judgment in determining the appropriate means of egress components. For example a large assembly space may need certain Group requirements, while a mechanical space with no patient would not need an 8' corridor.

(Topic 9 – General WG)

Round 1, Issue 9: MIXED USE AND ACCESSORY OCCUPANCY PROVISIONS (2 of 2)

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

(IBC) Table 508.4 Add a new footnote e (referenced from Group B occupancies) as follows:

e. See Section 422.2 for ambulatory care facilities.

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.icsafe.org/cs/AHC/Pages/default.aspx), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

This footnote reminds the reader that although there is no separation required for many B occupancy to other occupancies that Section 422.2 would still require a 1 hour fire partition between other group B occupancies and F-1, M and S-1 occupancies.

(Topic 9 – General WG)

Round 1, Issue 12: EXISTING STANDARD REFERENCES AND TERMINOLOGY RELATED TO HEALTH CARE (1 of 2)

~~CODE GROUP A – IBC GENERAL COMMITTEE~~

CODE GROUP B – IFC GENERAL COMMITTEE

**Need IFC 604.1.1 Correlation
Put ASCE 24 in IFC Chapter 80**

Fxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

(IBC) Revise as follows:

[F]2702.1.1 IFC 604.1.1 Stationary generators. Stationary emergency and standby power generators required by this code shall be *listed* in accordance with UL 2200 and shall be installed in accordance with ASCE 24.

Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.asce.org), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

There is no way to get to the requirements or limitations regarding generator placement for healthcare facilities that are in the standard if the code text for the specific code section does not take you there.

The Adhoc committee on healthcare identified this coordination oversight as it has been identified in healthcare facilities and that generators are being installed in areas subject to flooding, and although they were designed to meet the structural loads for the flooding, they would operationally fail.

There is no cost impact for these requirements because the compliance with ASCE 24 is required for these facilities; specific reference to ASCE for coordination of requirements applicable to healthcare facilities that require emergency or standby power systems per federal, state and licensing agency requirements and references.

It is an installation construction requirement that is not specifically addressed in the code; emergency and standby power by generators is necessary for life safety and preservation for healthcare and for other occupancies and uses as specified in 2702.

(Topic 12 – General WG)

**Round 1, Issue 12: EXISTING STANDARD REFERENCES AND TERMINOLOGY
RELATED TO HEALTH CARE (2 of 2)**

CODE GROUP A – IBC GENERAL COMMITTEE

Gxx-12/13

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Find and replace the terms “gurney” and “litter” throughout the I-Codes with the term “stretcher.”

407.5.1 Refuge area. Refuge areas shall be provided within each *smoke compartment*. The size of the refuge area shall accommodate the occupants and care recipients from the adjoining *smoke compartment*. Where a *smoke compartment* is adjoined by two or more *smoke compartments*, the minimum area of the refuge area shall accommodate the largest *occupant load* of the adjoining compartments. The size of the refuge area shall provide the following:

1. Not less than 30 net square feet (2.8 m²) for each care recipient confined to bed or ~~litter~~ stretcher.
2. Not less than 6 square feet (0.56 m²) for each ambulatory care recipient not confined to bed or ~~litter~~ stretcher and for other occupants.

Areas or spaces permitted to be included in the calculation of refuge area are *corridors*, sleeping areas, treatment rooms, lounge or dining areas and other low hazard areas.

407.9 Secured yards. Grounds are permitted to be fenced and gates therein are permitted to be equipped with locks, provided that safe dispersal areas having 30 net square feet (2.8 m²) for bed and ~~litter~~ stretcher care recipients and 6 net square feet (0.56 m²) for ambulatory care recipients and other occupants are located between the building and the fence. Such provided safe dispersal area shall be located not less than 50 feet (15 240 mm) from the building they serve.

Table 1018.2 MINIMUM CORRIDOR WIDTH Occupancy Width (min)

Table 1018.2

In <i>corridors</i> and areas serving gurney <u>stretcher</u> traffic in occupancies where patients receive outpatient medical care, which causes the patient to be incapable of <i>self-preservation</i> .	72 inches
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Reason: This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code

issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the [American Society for Healthcare Engineering](http://www.iccsafe.org/cs/AHC/Pages/default.aspx), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>.

Revising these terms will be more consistent with current healthcare terminology and create consistency throughout the code. The term stretcher in place of either gurney or litter in the code has no financial impact on construction.

Note: Check with code changes to make sure the term “gurnee” or “litter” where used in other changes is revised if this passes.

MEANS OF EGRESS WORK GROUP **PART I – ROUND 1 ISSUES CODE CHANGES**

Index of changes:

- IBC Chapter 2 – MOE#11 – 24 hour care basis
- IBC Chapter 2 – MOE#12 (Issue 4) – Care suites
- IBC 407.4.2 – MOE#12 (Issue 4) – Suite size
- IBC 407.4.3 – MOE#12 (Issue 4) – Suite size
- IBC 407.8 - MOE#12 (Issue 4) – add smoke detection to suites
- IBC 711.9 – MOE#1 – removal of lobby requirement in hospitals
- IBC 713.14.1 – MOE #2 – removal of lobby requirement in hospitals
- IBC 1008.1.9.6 – MOE#8 – Special locking arrangements in Group I-2 revised
- IBC 1008.1.9.7 – MOE #5 – delayed egress locks revised
- IBC 1008.1.9.7 – MOE #6 – two delayed egress locks in a moe path
- IBC 1008.1.9.8 – MOE #7 – access controlled egress doors revised
- IBC 1008.1.9.9 – after MOE#7 & 8 – Electromagnetically locked egress doors – coordination
- IBC 1017.3 – MOE #3 – require aisles to keep the same width as corridors
- IBC 1017.5 – MOE #3 – require aisles to keep the same width as corridors
- IBC 1018.2 – MOE #3 – corridor width in Ambulatory Care
- IBC 1104.3 – MOE#9 – ADA coordination for hospital door size
- IBC 1107.3 – MOE#9 – ADA coordination for hospital door size
- IBC 1107.5.3.1 – MOE#9 – ADA coordination for hospital door size
- IBC 1109.2 – MOE#10 – Exception for bariatric facilities

- IFC 907.2.6.2 – MOE#12 (Issue 4) – add smoke detection to suites
- IFC 1030.3.1 (new) – MOE#4 – wheeled equipment in 8’ corridors

- IFC 1030.2.1 - after MOE#8 – Security devices and egress locks – coordination

Following are the code change proposals for each topic:

Group A: Round 1, MOE #1, 2, 3, 5, 6, 7, 8, 9, 10, 11, 12 and 12A

Group B: Round 1, MOE #4 and 8A

ICC-CTC has joined as a co-sponsor on MOE# 3, 4, 5, 6, 8, 8A and 11.
Comments within MOE# 2, 7, 12.

Issue #1:

1. Elevators –
 - EGRESS THROUGH ELEVATOR LOBBY
 - OCCUPANT EVACUATION VIA ELEVATORS

Conclusion #1:

#MOE1 -

- *CTC Care Facilities will not participate*

Delete 'hidden' lobby requirement and just reference 713.14.1:

Code Group A – Fire Safety Committee

FSxx-12/13

711.9

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care
Revise as follows:

IBC 711.9 Smoke barrier. Where *horizontal assemblies* are required to resist the movement of smoke by other sections of this code in accordance with the definition of *smoke barrier*, penetrations and joints in such *horizontal assemblies* shall be protected as required for *smoke barriers* in accordance with Sections 714.5 and 715.6. ~~Regardless of the number of stories connected by elevator shaft enclosures,~~ doors located in elevator shaft enclosures that penetrate the *horizontal assembly* shall be protected in accordance by enclosed elevator lobbies complying with Section 713.14.1. Openings through *horizontal assemblies* shall be protected by shaft enclosures complying with Section 713. *Horizontal assemblies* shall not be allowed to have unprotected vertical openings.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code

officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The reason for this change is to clarify the code. This code changes addresses text new in the 2009 IBC. The new text creates in effect a hidden requirement for elevator lobbies. We are proposing to clearly direct user of the code to Section 713.14.1 for the scoping language for elevator lobbies, as well as construction methods and any exceptions.

(Repeat this portion with every change) This proposal is submitted by the ICC Ad Hoc Committee for Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society of Hospital Engineers, a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

#MOE2 –

- *CTC Care Facilities will not participate*
- *Agree that this should apply to all Group I-2*
- *Make correlative change to add Group I-1, Condition 2 (#7)*
- *Code change also coming from CTC Vertical opening study group for elevator lobby coordination*

Code Group A – Fire Safety Committee

FSxx-12/13

713.14.1

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IBC 713.14.1 Elevator lobby. An enclosed elevator lobby shall be provided at each floor where an elevator shaft enclosure connects more than three *stories*. The lobby enclosure shall separate the elevator shaft enclosure doors from each floor by *fire partitions*. In addition to the requirements in Section 708 for *fire partitions*, doors protecting openings in the elevator lobby enclosure walls shall also comply with Section 716.5.3 as required for *corridor* walls and penetrations of the elevator lobby enclosure by ducts and air transfer openings shall be protected as required for *corridors* in accordance with Section 717.5.4.1. Elevator lobbies shall have at least one *means of egress* complying with Chapter 10 and other provisions within this code.

Exceptions:

Exceptions 1-3 (no change)

4. Enclosed elevator lobbies are not required where the building is protected by an automatic sprinkler system installed in accordance with Section 903.3.1.1 or 903.3.1.2. This exception shall not apply to the following:

- 4.1 ~~Group I-2 occupancies~~
- 4.2 Group I-3 occupancies; and
- 4.3 Elevators serving floor levels over 75 feet above the lowest level of fire department vehicle access in high-rise buildings.

Exceptions 5-7 (no change)

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at:

<http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

Previous to the 2009 version, the IBC did not require hospitals, nursing homes and boarding homes to provide elevator lobbies if the building was provided with fire sprinklers. Elevator lobbies serve no purpose on floors of facilities that “defend in place”. It is a long standing practice in healthcare to evacuate patients to the adjacent smoke compartment instead of evacuating them out of the building. Group I-2 provides smoke compartmentation for an added level of protection against the spread of smoke through the building. Floors are separated into at least two smoke compartments by rated construction and provide passive protection in addition to the active protection of a sprinkler system. These compartments in effect serve the same purpose as an elevator lobby.

The addition of elevator lobbies in these facilities could complicate the movement of patients to the adjacent smoke compartment by adding doors that bedridden patients must be transferred through. While alternatives to elevator lobbies exist, all increase construction cost for facility type who have a good fire record.

Issues #2:

2. Corridors-

- GENERAL EGRESS
 - WIDTH – 8’ CORRIDOR VS 5’ CLEAR;
 - COMMON PATH OF TRAVEL
 - TRAVEL DISTANCE
- PATIENTS AS PART OF OCCUPANT LOAD CALCULATION/REFUGE AREAS
- WAITING SPACES OPEN TO CORRIDOR

Conclusions #2 (Corridors):

#MOE3

Should the new text be a separate change?

- *CTC Care Facilities co-proponent*

Code Group A – Means of Egress Committee

Exx-12/13

1017.3, 1017.5 (IFC [B] 1017.3, 1017.5)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1017.3 (IFC [B] 1017.3) Aisles in Groups B and M. In Group B and M occupancies, the minimum clear *aisle* width shall be determined by Section 1005.1 for the *occupant load* served, but shall not be less than ~~36 inches (914 mm)~~. that required for corridors by Section 1018.2.

Exception: Nonpublic *aisles* serving less than 50 people and not required to be *accessible* by Chapter 11 need not exceed 28 inches (711 mm) in width.

IBC 1017.5 (IFC [B] 1017.5) Aisles in other than assembly spaces and Groups B and M. In other than rooms or spaces used for assembly purposes and Group B and M occupancies, the minimum clear *aisle* width shall be determined by Section 1005.1 for the *occupant load* served, but shall not be less than ~~36 inches (914 mm)~~. that required for corridors by Section 1018.2.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The change for aisles in IBC Sections 1107.3 and 1017.5 if for coordination with the new corridor width Table 1018.2 and the language for ramp width in Section 1010.6.1. Also, aisles, corridors and ramps are all using the same capacity numbers in Section 1005.3.2. Aisle used for movement of patient beds should also meet 96”.

Exx-12/13

Table 1018.2 (IFC [B] Table 1018.2)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

1018.2 Width. The minimum width of corridors specified in Table 1018.2 shall be as determined in Section 1005.1.

Table 1018.2
MINIMUM CORRIDOR WIDTH

Occupancy	Width (min)
Any facilities not listed below	44 inches (1118 mm)
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24 inches (610 mm)
With a required occupancy capacity less than 50	36 inches (914 mm)
Within a dwelling unit	36 inches (914 mm)
In Group E with a corridor having a required capacity of 100 or more	72 inches (1829 mm)
In corridors and areas serving gurney traffic in occupancies where patients receive outpatient medical care, which causes the patient to be incapable of self-preservation <u>ambulatory care facilities</u>	72 inches (1829 mm)
Group I-2 in areas where required for bed movement	96 inches (2438 mm)

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This language was proposed prior to the development of the ambulatory care facilities. The intent is to use the defined term for clarification and to eliminate conflicts. [The definition for Ambulatory Care Facilities](#) already addresses the ability of the patients. **The term 'outpatient clinic' currently says that the patients must be capable.**

Note: John Williams to add to reason statement.

#MOE4

Jonathan Flannery to review reason

- *CTC Care Facilities as co-proponent*
- *Group I-2 only since I-1 does not have 96" corridors required*

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

IFC 1030

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Add new text as follows:

IFC 1030.3.1 Group I-2. In Group I-2, the required clear width for aisles, corridors and ramps that are part of the required means of egress shall comply with Section 1018.2. The facility shall have a ~~defend in place management~~ plan to maintain the required clear width during emergency situations.

Exception: In areas required for bed movement, ~~projections equipment shall be permitted in~~ into the required width ~~shall be permitted~~ where all the following provisions are met:

1. The equipment ~~that reduced the required width are is~~ low hazard and wheeled.
2. The ~~wheeled~~ equipment does not reduce the effective clear width for the means of egress to less than 5 feet (1525 mm).
3. The ~~wheeled~~ equipment is limited to:
 - 3.1. Equipment and carts in use;
 - 3.2. Medical emergency equipment;
 - 3.3. Infection control carts; and
 - 3.4. Patient lift and transportation equipment.
4. Medical emergency equipment and patient lift and transportation equipment, when not in use, is required to be located on one side of the corridor.
5. The ~~wheeled~~ equipment is limited in number to a maximum of one per patient sleeping room or patient care room within each smoke compartment.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its

inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The new language in Section 1030.3.1 is to be placed in the International Fire Code as a procedural requirement. It is recognized that the 8'-0" wide corridor in an institutional occupancy where beds are moved is to remain at 8'-0" in width. The language recognizes and identifies the fact that certain movable pieces of equipment will be present in the corridor during normal operations of the patient care units and seeks to restrict the types and number of such pieces of equipment and the restrictions the equipment may impose on the means of egress.

The language also recognizes that during emergencies facilities must have an emergency management plan that address the steps that must be taken by the facility and responding staff to ensure that the required 8'-0" wide corridor is kept clear of movable obstructions.

The terminology is consistent with NFPA 101.

Note:

- Should this be fire safety plan or all emergency plans?
- Revise reason to match revisions.
- Should "low hazard" be defined?

Issue #3

3. Security and locking arrangements –
 - SPECIAL LOCKING DEVICES
 - DELAYED EGRESS
 - LATCHES ON SMOKE BARRIER DOORS
 - STAFF CONTROL IN PSYCH WARDS
 - INFANT CONTROL
 - SLIDING DOORS

Conclusion #3:

#MOE5

- *CTC Care Facilities be co-proponents*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.7 (IFC [B] 1008.1.9.7)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1008.1.9.7 (IFC [B] 1008.1.9.7) Delayed egress locks. ~~Approved, listed,~~ Delayed egress locks ~~locking system,~~ shall be permitted to be installed on doors serving any occupancy except Group A, E, and H occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907;. The locking system shall allow immediate free egress and shall be installed and operated in accordance with Items 1 through 6 7 below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an *exit*.

1. The ~~delay electronics shall deactivate doors-unlock~~ upon actuation of the *automatic sprinkler system* or automatic fire detection system, allowing immediate, free egress.
2. The ~~doors-unlock~~ delay electronics shall deactivate upon loss of power controlling the lock or lock mechanism, allowing immediate free egress.
3. The ~~door-locks~~ delay electronics shall have the capability of being ~~unlocked by a signal from~~ deactivated at the fire command center and other approved locations.
4. An attempt to egress ~~The initiation of~~ shall initiate an irreversible process which ~~will release the latch~~ shall allow such egress in not more than 15 seconds when a ~~force of not more than 15 pounds (67 N)~~ physical effort to exit is applied to the egress side door hardware for not more than 4 3 second-seconds to the release device. The effort to open the door shall not require a force greater than 30 pounds (133N). Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the ~~delay electronics door-lock has~~ have been ~~released~~ deactivated, ~~by the application of force to the releasing device,~~ relocking-rearming the delay electronics shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. A sign shall be provided on the door located above and within 12 inches (305mm) of the ~~release device~~ door exit hardware reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 (30) SECONDS. The sign shall comply with the visual character requirements in ICC A117.1.
6. Emergency lighting shall be provided at on the egress side of the door.
7. All components of the door locking system shall be listed in accordance with UL 294.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at:

<http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The intent of this proposal is to clarify the delayed egress locking system requirements. The intent is for both proposals for Section 1008.1.9.7 to work together. Three changes are submitted in order to keep the discussions separate.

The term “delayed egress lock” is proposed to be changed to “delayed egress locking system.” Delayed egress always requires a system of electronic devices that work together to perform the delayed egress task. Sometimes they are contained within an electromagnetic lock or a bar and sometimes they are separate components, but they are never just a lock.

The term ‘unlock” is proposed to change to “allow immediate free egress.” Immediate free egress can be accomplished without unlocking the door. Merchants, offices and health care facilities are hesitant to use delayed egress because an “after hours” egress event will leave their building unlocked. Addressing the “delay” as a separate issue from “locked”, this modification will allow the door to relock FROM THE OUTSIDE after a delayed egress event, but change the operation of the door to free egress until the system is manually reset. The intent of the code is not to keep people out. Instead, it is to let them out.

In Item 4 it is proposed to change the delay from one second to three seconds. One second is not enough time for a fully cognizant person to recognize that their action is what is causing the alarm and decide to abort the exit attempt. Dementia patients tend to wander toward doors when not otherwise engaged. Since staffing cannot be 1:1, it means that the nurses are attending other issues. Reducing these “nuisance” alarm issues can greatly reduce the need to drop everything and go check and reset the door.

In Item 4 it is proposed to make the force requirement consistent with Section 1008.1.3. There are three ways to initiate a delay sequence that are in common use, today. The code has never been changed to accommodate two of these. The original one, an electromagnetic lock with delay electronics and a switch built into the case, is not addressed. It allows the use of existing door hardware and should be used with exit only applications. Otherwise, it can be triggered from both sides. The second means of delay initiation includes switches in cylindrical and mortise locks that begin the sequence when the inside lever is turned. This method has become possible with the ADA changes made to these locks to accommodate levers. The third method is the one the code seems to reference. It uses a switch bar (aka active dummy with switch), a panic bar with a switch, or fire-exit hardware with a switch. Depending on the manufacturer and the model number, the switch may either signal an external delay timer that controls an electromagnetic lock or signal a self-contained delayed egress system that controls a latch.

In Item 5 it is proposed to require a contrasting color for signage. Manufacturers typically supply the sign with their product, but often the sign blends in with the color of the door. The reference to ICC A117.1 visual requirements would not require engraved letters or Braille, but would require readable text, with good finish and contrast.

#MOE5A

- *CTC Care Facilities be co-proponents*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.7 (IFC [B] 1008.1.9.7)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1008.1.9.7 (IFC [B] 1008.1.9.7) Delayed egress locks. *Approved, listed,* delayed egress ~~locks~~ locking system, shall be permitted to be installed on doors serving any

occupancy except Group A, E, and H occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907, *provided that the doors unlock in accordance with Items 1 through 6* below. A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an *exit*.

1. The doors unlock upon actuation of the *automatic sprinkler system* or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 *second* to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released, by the application of force to the releasing device, relocking rearming shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. A sign shall be provided on the door located above and within 12 inches (305mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 (30) SECONDS.

Exception: Where approved, the installation of a sign is not required when it interferes with the safety of the residents in Group I occupancies.

6. Emergency lighting shall be provided at the door.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The intent of this proposal is to clarify the delayed egress locking system requirements. The intent is for both proposals for Section 1008.1.9.7 to work together. Three changes are submitted in order to keep the discussions separate.

The new exception to Item 5 - Providing escape instructions to first stage Alzheimer's disease patients who often still can read is unwise. Staff is there to assist in a fire.

#MOE6

- *CTC Care Facilities be co-proponents*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.7 (IFC [B] 1008.1.9.7)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1008.1.9.7 (IFC [B] 1008.1.9.7) Delayed egress locks. *Approved, listed, delayed egress locks locking system,* shall be permitted to be installed on doors serving any occupancy except Group A, E, and H occupancies in buildings that are equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or an *approved* automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors unlock in accordance with Items 1 through 6 7 below. ~~A building occupant shall not be required to pass through more than one door equipped with a delayed egress lock before entering an exit.~~

1. The doors unlock upon actuation of the *automatic sprinkler system* or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center.
4. The initiation of an irreversible process which will release the latch in not more than 15 seconds when a force of not more than 15 pounds (67 N) is applied for 1 *second* to the release device. Initiation of the irreversible process shall activate an audible signal in the vicinity of the door. Once the door lock has been released by the application of force to the releasing device, relocking shall be by manual means only.

Exception: Where approved, a delay of not more than 30 seconds is permitted on a delayed egress door.

5. The egress path from any point shall pass through no more than one delayed egress door.

Exception: In Group I-2 or I-3 occupancies, the egress path from any point in the building shall be permitted to pass through no more than two delayed egress doors provided the combined delay does not exceed 30 seconds.

6. A sign shall be provided on the door located above and within 12 inches (305mm) of the release device reading: PUSH UNTIL ALARM SOUNDS. DOOR CAN BE OPENED IN 15 (30) SECONDS.
7. Emergency lighting shall be provided at the door.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the

committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The intent is for both proposals for Section 1008.1.9.7 to work together. Two changes are submitted in order to keep the discussions separate.

Since delayed egress was developed in two separate theaters for two separate reasons, pilfering was a reason that is perfect for *one* 15 second delay. Back then, sprinkler requirements were not like they are today. On the other hand, delayed egress for health care in a fully sprinklered facility should be recognized as being different. A delay of thirty seconds is appropriate for this situation and so should two 15 second delays when used for good purpose, as they delay the person for no more time and often for less time. Following are two good purposes:

1. Property, especially in cities, is at a premium in both price and availability. For this reason, we see more and more two and three story ambulatory health care facilities as a result of needing to build up instead of out. This comes with a need to keep Alzheimer's disease and Head Injury patients on the floor **and** in the building. Currently, the facility is tasked with having to make a dangerous and unnecessary choice.
2. Most large (60+) single story dementia facilities have a perimeter fence surrounding the back and sides of the building. All exits except the front door are into a protected yard. The front door controls entry into the office/lobby area and reception. It is a small area requiring only the front door as an exit. A second door leading from the front office area into the core of the facility keeps the residents from eloping and strangers from entering. Originally, this door was not an exit and the facility side of the door was disguised as a wall so residents (patients) would not try to get out. Since it was not an exit, a delayed egress system was placed on that door and another one on the front door. Keypads were on both sides and both systems would unlock upon activation of the fire alarm. It was a mantrap designed so that if the lobby to core door went into alarm, the front door would instantly become delayed egress. Pursuant to the "discovery" and subsequent enforcement of the idea that if people exit the way they entered, the lobby to core door was an exit, should not be disguised and the front door could no longer be delayed. Without exceptions for those with health issues, the patients were now less safe than before. Allowing two 15 second delays would return them to a safe environment. This reasoning could also be applied toward doors leading into a common lobby with a stair tower door. The stair tower door would be free egress unless someone had triggered the ward delay in an attempt to elope from the ward. This would set off the alarm and arm the stair tower door's delayed egress system.

#MOE7

- *CTC Care Facilities not participate*
- *Put together change add Group I-1 and I-4 to where this is allowed (#8)*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.8 (IFC [B] 1008.1.9.8)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IBC 1008.1.9.8 (IFC [B] 1008.1.9.8) Access-controlled Motion sensor release of electromagnetically locked egress doors. ~~Electromagnetically locked~~ The entrance doors located in a means of egress in buildings with an occupancy in Groups A, B, E, I-2, M, R-1 or R-2 and entrance doors to tenant spaces in occupancies in groups A, B, E, I-2, M, R-1 or R-2 are permitted ~~to be equipped with an approved entrance and egress access control system, listed in accordance with UL 294, which shall be~~ where installed and operated in accordance with all of the following criteria:

1. A motion sensor shall be provided on the egress side arranged to detect an occupant approaching the doors. The doors shall be arranged to unlock by a signal from or loss of power to the sensor.
2. Loss of power to ~~that the~~ lock part of the access control system which locks the doors shall automatically unlock the doors.
3. The doors shall be arranged to unlock from a manual unlocking device located 40 inches to 48 inches (1016mm to 1219mm) vertically above the floor and within 5 feet (1524mm) of the secured doors. Ready access shall be provided to the manual unlocking device and the device shall be clearly identified by a sign that reads "PUSH TO EXIT." When operated, the manual unlocking device shall result in direct interruption of power to the lock—~~independent of the access control system~~ other electronics—and the doors shall remain unlocked for a minimum of 30 seconds.
4. Activation of the building fire alarm system, if provided, shall automatically unlock the doors, and the doors shall remain unlocked until the fire alarm system has been reset.
5. Activation of the building automatic sprinkler or fire detection system, if provided, shall automatically unlock the doors. The doors shall remain unlocked until the fire alarm system has been reset.
6. Entrance doors in buildings with an occupancy in Group A, B, E, or M shall ~~not be secured from the~~ always allow immediate free egress side during periods that the building is open to the general public.
7. All components of the door locking system shall be listed in accordance with UL 294.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This code was originally proposed to NFPA, UBC/UFC, and BOCA as an **alternative** way to release electromagnetic locks. It came from Washington, D.C. security contractors in the early 1980s when faced with installing electromagnetic locks on hundreds of all glass doors on defense contractors' facilities. There was no way to install bars with switches and no way to conceal the wiring. The title, Access Controlled Egress Doors, **meant** that access to free egress was controlled. It had nothing to do with the (then) new *electronic access control systems*.

The code addressed fire safety by taking aspects of devices not allowed and making them safer when used together. Buttons, once special knowledge, were given specific placement parameters and requirements to break the power to the lock, **directly**; the somewhat unreliable motion sensor was backed up by the button; the 30 second re-triggerable and independent timer attached to the button protected against CPU failure and allowed 30 seconds before relocking so the disabled could get through the door; and the connection to the fire system meant that the door would unlock upon alarm. It was an alternate code, designed to be used sparingly and in certain situations.

This code is used heavily in hospitals, but its application is often misunderstood. It is time to clean up this code by eliminating confusing references to *access control systems*, directly or implied. Access has never been an issue for the codes, except in high-rise stair towers.

#MOE7A

- *CTC Care Facilities not participate*
- *Put together change add Group I-1 and I-4 to where this is allowed (#8)*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.8 (IFC [B] 1008.1.9.8)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IBC 1008.1.9.9 Door hardware release of electromagnetic locks on

~~Electromagnetically locked egress doors.~~ Doors in the *means of egress* in buildings with an occupancy in Group A, B, E, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with ~~listed~~ hardware that incorporates a built-in switch and ~~meet the requirements below~~ are installed and operated in accordance with Items 1 through 6 below:

1. The ~~listed~~ hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The ~~listed~~ hardware is capable of being operated with one hand.
3. Operation of the ~~listed~~ hardware directly interrupts the power to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the ~~listed~~ hardware automatically unlocks the door.
5. Where panic or *fire exit hardware* is required by Section 1008.1.10, operation of the ~~listed~~ panic or *fire exit hardware* also releases the electromagnetic lock.

6. All components of the door locking system shall be listed in accordance with UL 294.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Need specific reason for Manual electromagnetic lock change.

#MOE7B

- *CTC Care Facilities not participate*
- *Put together change add Group I-1 and I-4 to where this is allowed (#8)*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.8 (IFC [B] 1008.1.9.8)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IBC 1008.1.9.9 Electromagnetically locked egress doors. Doors in the *means of egress* in buildings with an occupancy in Group A, B, E, I-2, M, R-1 or R-2 and doors to tenant spaces in Group A, B, E, I-2, M, R-1 or R-2 shall be permitted to be electromagnetically locked if equipped with listed hardware that incorporates a built-in switch and meet the requirements below :

1. The listed hardware that is affixed to the door leaf has an obvious method of operation that is readily operated under all lighting conditions.
2. The listed hardware is capable of being operated with one hand.
3. Operation of the listed hardware directly interrupts the power to the electromagnetic lock and unlocks the door immediately.
4. Loss of power to the listed hardware automatically unlocks the door.
5. Where panic or *fire exit hardware* is required by Section 1008.1.10, operation of the listed panic or *fire exit hardware* also releases the electromagnetic lock.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the

committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Need specific reason for Manual electromagnetic lock change.

#MOE8

- *CTC Care Facilities co-proponent;*
- *Separate change for Group I-1, Condition 2 (#9)*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.6 (IFC [B] 1008.1.9.6)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1008.1.9.6 (IFC [B] 1008.1.9.6) Special Controlled egress locking arrangements in doors in Group I-2. Approved, Electric special egress locks, including electro-mechanical locks and electromagnetic locks, shall be permitted to be locked in the means of egress in a Group I-2 occupancy where the clinical needs of persons receiving care require their containment. ~~such locking.~~ Special egress locks Controlled egress doors shall be permitted in such occupancies where the building is equipped throughout with an automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic-smoke or heat detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with Items 1 through 7 ~~8~~ below.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a switch that directly breaks power to the lock, located signal from ~~at~~ the fire command center, a nursing station or other approved location.
4. A building occupant shall not be required to pass through more than one door equipped with a special controlled egress lock before entering an exit.
5. The procedures for the ~~operation(s) of the unlocking system of the doors~~ shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code.

6. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
7. Emergency lighting shall be provided at the door.
8. [All components of the door locking system shall be listed in accordance with UL 294.](#)

Exception: Items 1 through 4 shall not apply to doors to areas where persons which because of clinical needs require restraint or containment as part of the function of a psychiatric treatment area.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This section deals with the use of electric locks to enhance the capabilities of egress control. Egress control serves three primary purposes. These are to control the elopement of ambulatory patients not capable of self preservation; the containment of patients that, due to their mental condition, could do harm to others; the prevention of the abduction of babies and children. Exceptions allow for the use of listed child abduction security systems and even mechanical locks (non-electric.)

#MOE8A

- *CTC Care Facilities co-proponent;*
- *Separate change for Group I-1, Condition 2 (#9)*

Code Group A – Means of Egress Committee

Exx-12/13

1008.1.9.6 (IFC [B] 1008.1.9.6)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IBC 1008.1.9.6 (IFC [B] 1008.1.9.6) Special locking arrangements in Group I-2.

Approved, special egress locks shall be permitted in a Group I-2 occupancy where the clinical needs of persons receiving care require such locking. Special egress locks shall be permitted in such occupancies where the building is equipped throughout with an

automatic sprinkler system in accordance with Section 903.3.1.1 or an approved automatic smoke or heat detection system installed in accordance with Section 907, provided that the doors are installed and operate in accordance with Items 1 through 7 below.

1. The doors unlock upon actuation of the automatic sprinkler system or automatic fire detection system.
2. The doors unlock upon loss of power controlling the lock or lock mechanism.
3. The door locks shall have the capability of being unlocked by a signal from the fire command center, a nursing station or other approved location.
4. A building occupant shall not be required to pass through more than one door equipped with a special egress lock before entering an exit.
5. The procedures for the operation(s) of the unlocking system shall be described and approved as part of the emergency planning and preparedness required by Chapter 4 of the International Fire Code.
6. All clinical staff shall have the keys, codes or other means necessary to operate the locking devices.
7. Emergency lighting shall be provided at the door.

Exception Exceptions:

1. Items 1 through 4 shall not apply to doors to areas where persons which because of clinical needs require restraint or containment as part of the function of a psychiatric treatment area.
2. Items 1 through 4 shall not apply to doors to areas where a listed egress control system is utilized to reduce the risk of child abduction.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

Need reason

#MOE8B
Correlation with MOE #5-8

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

IFC 1030.2.1

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

IFC 1030.2.1 Security devices and egress locks. Security devices and locks affecting *means of egress* shall be subject to approval of the *fire code official*. Special locking arrangements including, but not limited to ~~access controlled egress doors~~, security grills, mechanical locks and latches and all electronic locks and systems that restrict, control or delay egress shall be installed and maintained as required by this chapter.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

The Adhoc Health Care committee and ICC Code Technologies Committee co-sponsored code changes to update terminology for several of the different locking systems address in the IBC. This change in terminology would make the maintenance provisions in the IFC consistent with the terminology changes.

Issue #4

- 4. Care Suites
 - SUITE SIZE AND SUPERVISION
 - MEANS OF EGRESS SUITE

#MOE12

- *CTC Care Facilities not participate since they typically do not use suites*
- *Leave all Group I-2*

CODE GROUP A – IBC General Committee

Gxx-12/13

202, 407.4.2, 407.4.3-407.4.3.5.3,

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

CARE SUITE. In Group I-2 occupancies, A group of treatment rooms, care recipient sleeping rooms and their associated the support rooms or spaces and circulation space within the suite ~~Group I-2 occupancies~~ where staff are in attendance for supervision of all care recipients within the suite, and the suite is in conformance with the requirements of Section 407.4.3.

407.4.2 Travel distance. The travel distance between any point in a Group I-2 occupancy sleeping room, not located in a care suite, and an *exit access* door in that room shall be not greater than 50 feet (15 240 mm).

407.4.3 Group I-2 care suites. *Care suites* in Group I-2 shall comply with Section 407.4.3.1 through 407.4.3.2 and either Section 407.4.3.3 or 407.4.3.4.

407.4.3.1 Exit access through care suites. *Exit access* from all other portions of a building not classified as a *care suite* shall not pass through a *care suite*. In a *care suite* required to have more than one *exit*, one *exit access* is permitted to pass through an adjacent *care suite* provided all of the other requirements of Sections 407.4 and 1014.2 are satisfied.

407.4.3.2 Separation. *Care suites* shall be separated from other portions of the building by a smoke partition complying with Section 710.

407.4.3.3 Access to Corridor. Movement from habitable rooms shall not require passage through no more than 3 doors and 100 feet (30 480 mm) travel distance within the suite.

Exception: The travel distance shall be permitted to be increased to 125 feet (38 100 mm) where all sleeping rooms are provided with constant visual supervision into the sleeping rooms by care providers ~~or and~~ an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

~~**407.4.3.3 Number of doors.** Movement of beds from the patient sleeping rooms out of a care suite shall not require passage through more than 3 doors.~~

~~**407.4.3.3 One intervening room.** For rooms other than sleeping rooms located within a *care suite*, *exit access* travel from the *care suite* shall be permitted through one intervening room where the travel distance to the *exit access* door from the *care suite* is not greater than 100 feet (30 480 mm).~~

~~407.4.3.4 Two intervening rooms.~~ For rooms other than sleeping rooms located within a *care suite*, ~~exit access travel within the care suite shall be permitted through two intervening rooms where the travel distance to the exit access door from the care suite is not greater than 50 feet (15 240 mm).~~

407.4.3.4 407.4.3.5 Care suites containing sleeping room areas. Sleeping rooms shall be permitted to be grouped into *care suites* ~~with one intervening room~~ if one of the following conditions is met:

1. The ~~intervening room within the~~ *care suite* is not used as an *exit access* for more than eight care recipient beds.
2. The arrangement of the *care suite* allows for direct and constant visual supervision into the sleeping rooms by care providers.
3. An automatic smoke detection system is provided in the sleeping rooms and installed in accordance with NFPA 72.

Note will be submitted as a separate change request

407.4.3.4.1 407.4.3.5.1 Area. *Care suites* containing sleeping rooms shall be not greater than ~~5,000~~ 7,500 square feet (~~465~~ 696 m²) in area.

Exception: *Care suites* containing sleeping rooms shall be permitted to be not greater than 10,000 sq feet (929 m²) in area where all sleeping rooms are provided with constant visual supervision into the sleeping rooms by care providers ~~or and an~~ automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

407.4.3.4.2 407.4.3.5.2 Exit access. Any sleeping room, or any *care suite* that contains sleeping rooms, of more than 1,000 square feet (93 m²) shall have no fewer than two *exit access* doors from the *care suite* located in accordance with Section 1015.2.

~~407.4.3.4.3 407.4.3.5.3 Travel distance.~~ ~~The travel distance between any point in a care site containing sleeping rooms and an exit access door from that care sure shall not be greater than 100 feet (30 480 mm).~~

Exception: The travel distance shall be permitted to be increased to 125 feet (38 100 mm) where all sleeping rooms are provided with constant visual supervision into the sleeping rooms by care providers or an automatic smoke detection system is provided throughout the *care suite* in accordance with Section 907.

407.4.3.5 Care suites not containing sleeping rooms. Areas not containing sleeping rooms, but only treatment areas and the associated rooms, spaces or circulation space shall be permitted to be grouped into *care suites* and shall conform to the limitations in Section 407.4.3.5.1 and 407.4.3.5.2.

407.4.3.5.1 Area. *Care suites* of rooms, other than sleeping rooms, shall have an area not greater than 10,000 square feet (929 m²).

407.4.3.5.2 Exit access. *Care suites*, other than sleeping rooms, with an area of more than 2,500 square feet (232 m²) shall have no fewer than two *exit access* doors from the *care suite* located in accordance with Section 1015.2.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at:

<http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

In relation to the code change proposal dealing with size and configuration of care suites, the definition is being proposed with changes to address the scope of which the suites are used. Suites are recognized to be an effective tool to provide some flexibility in reaching an exit access, due to functional considerations. It is not the intent to broaden the definition so widely as to effectively eliminate the use of corridors as exit access. *This change attempts to clarify that associated support spaces of care suites, such as pharmacies, laboratories, linen rooms and storage rooms which are not located within the care suite are not required to be classified as care suites.*

The proposal relaxes several requirements due to providing additional fire protection features and clarifies code intent on requirements. The 5,000 square ft limitation for care suites was in legacy building codes before sprinkler protection was required in Group I-2 occupancies. Sprinkler protection provides additional life safety to building occupants which justifies the care suite containing sleeping rooms area increase to 7,500 square ft. Providing an automatic smoke detection system throughout a care suite containing sleeping rooms or constant staff supervision into the sleeping rooms further justifies increasing the area to 10,000 square ft.

The proposal also removes the intervening room from the travel distance requirements as an intervening room is difficult to define and conflicts with industry practice for design of certain units. For example does a pair of "cross corridor" doors within a suite constitute an intervening room? A provision was added to limit the number of doors required for a patient sleeping bed to reach the exit access corridor which addresses concerns regarding patient evacuation of the suite. Current requirements make it difficult to plan the sleeping portion of the suite in under 5,000 square feet, primarily because of the required size of the patient sleeping room. In the past, a sixteen bed area could get under the space requirement, with support spaces such as clean and soiled utilities falling outside that portion of the suite.

The proposal clarifies the 50 ft travel distance limitation from a patient sleeping room to an exit access door does not apply in care suites.

The proposal also permits smoke detection to be provided in sleeping rooms of care suites where direct supervision of patients by staff is not possible. Smoke detection in the patient room provides equivalent early detection of a fire. The proposal attempts to maintain the level of life safety in care suites while providing more options to health care design professionals to facilitate excellent patient experience and treatment.

In an inpatient hospital setting, an intensive care unit is one that is subject to sleeping suite requirements. Considering the requirement for visual supervision in this and other regulatory codes that healthcare follows, as well as basic operational issues, the introduction of a partition in the center of the unit limits full effectiveness of the visual capabilities of staff. This visual capability, especially in an ICU setting, is crucial to the operational effectiveness of the care plan. However, 407.4.3.4(2) was changed to clarify that the direct visual supervision is to occur into patient care sleeping rooms only. Constant visual supervision of enclosed support spaces and rooms is not feasible, and should not be considered the intent of the visual supervision requirement.

The travel distance provisions in care suites with sleeping rooms was increased to 125 ft to reach an exit access corridor based on the additional level of protection provided by direct and constant supervision into sleeping rooms by care providers or complete smoke detection throughout the suite as well as limiting the number of doors permitted for a patient sleeping bed to reach the exit access corridor.

This committee also has a correlative change to IFC with proposed language in IBC 407.8 and 907.2.6.2 coordinates with the proposed language automatic smoke detection system requirements in IBC 407.4.3.

Refer to attached "ICC_AHCHC Programming_10-10-2011.xlsx" for programming data as it relates to Intensive Care Units. This program is based on the noted version of the AIA or FGI Guidelines for Planning of Healthcare Facilities.

Note: revised reason from John Williams

#MOE12A

Correlation with #MOE12

CODE GROUP B – IFC COMMITTEE

Fxx-12/13

IFC 907.2.6.2 (IBC [F] 407.8, 907.2.6.2)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

IBC [F] 407.8 Automatic fire detection. An automatic smoke detection system shall be installed in corridors in nursing homes, long-term care facilities, detoxification facilities and spaces permitted to be open to the corridors by Section 407.2 shall be equipped with an automatic fire detection system. The system shall be activated in accordance with Section 907.5. Hospitals shall be equipped with an automatic smoke detection system as required in Section 407.2 and 407.4.3.

Exceptions:

1. *Corridor* smoke detection is not required ~~where sleeping rooms~~ in smoke compartments that contain sleeping units where such units are provided with *smoke detectors* that comply with UL 268. Such detectors shall provide a visual display on the *corridor* side of each sleeping room and unit and shall provide an audible and visual alarm at the care provider's station attending each unit.
2. *Corridor* smoke detection is not required ~~where sleeping room~~ in smoke compartments that contain sleeping units where sleeping unit doors are equipped with automatic door-closing devices with integral *smoke detectors* on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

IFC [F] 907.2.6.2 Group I-2. An automatic smoke detection system shall be installed in *corridors* in nursing homes, long term care facilities, detoxification facilities and spaces permitted to be open to the *corridors* by Section 407.2. The system shall be activated in accordance with Section 907.4. Hospitals shall be equipped with an automatic smoke detection system as required in Section 407.

Exceptions:

1. Corridor smoke detection is not required in smoke compartments that contain sleeping units where such units are provided with smoke detectors that comply with UL 268. Such detectors shall provide a visual display on the corridor side of each sleeping unit and shall provide an audible and visual alarm at the care provider's station attending each unit.
2. Corridor smoke detection is not required in smoke compartments that contain sleeping units where sleeping unit doors are equipped with automatic door-closing devices with integral smoke detectors on the unit sides installed in accordance with their listing, provided that the integral detectors perform the required alerting function.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The proposed language in IBC 407.8 and IBC/IFC 907.2.6.2 coordinates with the proposed language automatic smoke detection system requirements in IBC 407.4.3 submitted by the Adhoc Health Care committee during Group A hearings. The intent is also to make the language consistent between the two sections.

Issue #5

5. Accessibility -

- ACCESSIBILITY -
 - Coordination with 2010 ADA
 - MAXIMUM 18" CLEAR ON THE SIDE OF TOILET FOR CARE-GIVER ACCESS

#MOE9

- CTC Care Facilities not participate since only applicable to hospitals

CODE GROUP A – IBC Means of Egress

Exx-12/13

1104.3, 1107.3, 1107.5.3.1

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

1104.3 Connected spaces. When a building or portion of a building is required to be *accessible*, an *accessible route* shall be provided to each portion of the building, to *accessible* building entrances connecting *accessible pedestrian walkways* and the *public way*.

Exceptions:

1. In a building, room or space used for assembly purposes with *fixed seating*, an *accessible route* shall not be required to serve levels where *wheelchair spaces* are not provided.
2. In Group I-2 facilities, ~~doors to *sleeping units* shall be exempted from the requirements for maneuvering clearance at the room side provided the door is a minimum of 44 inches (1118 mm) in width.~~

1107.3 Accessible spaces. Rooms and spaces available to the general public or available for use by residents and serving *Accessible units*, *Type A units* or *Type B units* shall be *accessible*. *Accessible* spaces shall include toilet and bathing rooms, kitchen, living and dining areas and any exterior spaces, including patios, terraces and balconies.

Exceptions:

1. Recreational facilities in accordance with Section 1109.15.
2. In Group I-2 facilities, ~~doors to *sleeping units* shall be exempted from the requirements for maneuvering clearance at the room side provided the door is a minimum of 44 inches (1118 mm) in width.~~

1107.5.2 Group I-2 nursing homes. ...

1107.5.2.1 Accessible units. ...

1107.5.2.2 Type B units. ...

1107.5.3 Group I-2 hospitals. *Accessible units* and *Type B units* shall be provided in general-purpose hospitals, psychiatric facilities and detoxification facilities of Group I-2 occupancies in accordance with Sections 1107.5.3.1 and 1107.5.3.2.

1107.5.3.1 Accessible units. At least 10 percent, but not less than one, of the *dwelling units* and *sleeping units* shall be *Accessible units*.

Exception: Entry doors to Accessible dwelling or sleeping units shall not be required to provide the maneuvering clearance beyond the latch side of the door.

1107.5.3.2 Type B units. ...

1107.5.4 Group I-2 rehabilitation facilities. ...

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The intent of the proposal is for coordination with the 2010 ADA Standard of Accessible Design for hospital doors. The 2010 ADA includes the following.

404.2.4 Maneuvering Clearances. Minimum maneuvering clearances at doors and gates shall comply with 404.2.4. Maneuvering clearances shall extend the full width of the doorway and the required latch side or hinge side clearance.

EXCEPTION: Entry doors to hospital patient rooms shall not be required to provide the clearance beyond the latch side of the door.

The current IBC text is written for all Group I-2 while the ADA is limited to hospitals. The exception for the maneuvering clearances do not match. By relocating the requirement as an exception specifically for the which rooms are required to be Accessible (Section 1107.5.3.1), it is clear that the entrances to the Accessible patient sleeping rooms are the rooms that are can use that exception, as well making it clear that the intent is to allow these rooms to not meet the unit entry requirements in ICC A117.1 Section 1002.5.

#MOE10 –

Reason reviewed by Jonathan Flannery

- *CTC Care Facilities not participate but agree*

CODE GROUP A – IBC Means of Egress

Exx-12/13

1109.2

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care

Revise as follows:

1109.2 Toilet and bathing facilities. Each toilet room and bathing room shall be *accessible*. Where a floor level is not required to be connected by an *accessible route*, the only toilet rooms or bathing rooms provided within the facility shall not be located on the inaccessible floor. At least one of each type of fixture, element, control or dispenser in each *accessible* toilet room and bathing room shall be *accessible*.

Exceptions:

1. In toilet rooms or bathing rooms accessed only through a private office, not for *common* or *public* use and intended for use by a single occupant, any of the following alternatives are allowed:
 - 1.1. Doors are permitted to swing into the clear floor space, provided the door swing can be reversed to meet the requirements in ICC A117.1;
 - 1.2. The height requirements for the water closet in ICC A117.1 are not applicable;
 - 1.3. Grab bars are not required to be installed in a toilet room, provided that reinforcement has been installed in the walls and located so as to permit the installation of such grab bars; and
 - 1.4. The requirement for height, knee and toe clearance shall not apply to a lavatory.
2. This section is not applicable to toilet and bathing rooms that serve *dwelling units* or *sleeping units* that are not required to be *accessible* by Section 1107.
3. Where multiple single-user toilet rooms or bathing rooms are clustered at a single location, at least 50 percent but not less than one room for each use at each cluster shall be *accessible*.
4. Where no more than one urinal is provided in a toilet room or bathing room, the urinal is not required to be *accessible*.
5. Toilet rooms or bathing rooms that are part of critical care or intensive care patient sleeping rooms servicing Accessible units are not required to be *accessible*.
6. Toilet rooms or bathing rooms that serve an Accessible sleeping unit designed for a bariatric patient are not required to comply with the toilet room and bathing room requirement in ICC A117.1.
7. Where toilet facilities are primarily for children's use, required *accessible* water closets, toilet compartments and lavatories shall be permitted to comply with children's provision of ICC A117.1.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the

committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx>

The intent of the new exception 6 is to address rooms specifically designed for bariatric patients. This issue is not addressed in new ADA requirements. The physical size of bariatric patients would not allow for water closets to be located with the center line 16" to 18" from the wall. In addition, if a nurse needs to get next to a patient to offer assistance in rising or sitting down, there is no space between the toilet and the wall. There is also a problem with the size of 36" x 36" for transfer showers. Designing for bariatric patients will result in toilet rooms and bathing rooms that are accessible for these patients, just not bathrooms that are accessible in accordance with ICC A117.1.

While Exception 2 would exempt the toilet rooms in the 90% of the hospital rooms not required to be accessible, the additional language in Exception 5 would reinforce that intent.

Providing the Accessible units in other areas of the hospital is no longer an option. The Department of Justice regulations state that the Accessible rooms must be distributed by type of medical specialty provided in the hospital.

DOJ regulations 35.151 (h) and 36.406 (g) Medical care facilities. Medical care facilities that are subject to this section shall comply with the provisions of the 2010 Standards applicable to medical care facilities, including, but not limited to, sections 223 and 805. In addition, medical care facilities that do not specialize in the treatment of conditions that affect mobility shall disperse the accessible patient bedrooms required by section 223.2.1 of the 2010 Standards in a manner that is proportionate by type of medical specialty.

ISSUE 6 - Other

- The term "24 hour care" is not used in the code. Change to defined term to be coordinated with how it is used in Group I-1, I-2 and R-4. The committee asked for three options:

MOE#11 –

Reason reviewed by Jonathan Flannery

- *CTC Care Facilities co-proponent*
- *CTC Care including this in their main change*

CODE GROUP A – IBC General

Gxx-12/13

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Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Health Care and Carl Baldassarra, P.E., FSFPE, Chair, ICC Code Technology Committee

Revise as follows:

24 HOUR CARE BASIS. The actual time that a person is an occupant within a facility for the purpose of receiving care. It shall not include a facility that is open for 24 hours

and is capable of providing care to someone visiting the facility during any segment of the 24 hours.

Reason: This proposal is submitted by the ICC Ad Hoc Committee on Healthcare (AHC). The AHC was established by the ICC Board of Directors to evaluate and assess contemporary code issues relating to hospitals and ambulatory healthcare facilities. The AHC is composed of building code officials, fire code officials, hospital facility engineers, and state healthcare enforcement representatives. The goals of the committee are to ensure that the ICC family of codes appropriately addresses the fire and life safety concerns of a highly specialized and rapidly evolving healthcare delivery system. This process is part of a joint effort between ICC and the American Society for Healthcare Engineering (ASHE), a subsidiary of the American Hospital Association, to eliminate duplication and conflicts in healthcare regulation. Since its inception in April, 2011, the AHC has held 5 open meetings and over 80 workgroup calls which included members of the AHC as well as any interested party to discuss and debate the proposed changes. All meeting materials and reports are posted on the AHC website at: <http://www.iccsafe.org/cs/AHC/Pages/default.aspx> This proposal is being co-sponsored by the ICC Code Technology Committee.

This code change is intended to clarify the code. In the last code cycle a change was made attempting to clarify the phrase "24 hour basis". This term is used when determining the appropriate occupancy classification for facilities that provide custodial, medical or supervised care, including Group I-1, I-2 and R-4 (IBC 308.3, 308.4, 310.6). The committee accepted the clarification that in this context 24 hour care was intended to refer to the actual time that a patient is receiving care. Unfortunately, the code change used a phrase that was descriptive of the concept not the actual phrase used in the code. This code change corrects the term to the one used in code.