Adhoc Health Committee Report – General Group A changes:

There are 4 areas of study currently listed under Adhoc .

1. Fire/Fire Safety
2. General
3. Means of Egress
4. Occupancy

Following are code change proposals submitted through Adhoc Health from General study group and related changes.

General

Code Change #	Section	Adhoc (x) or Related (o)	Position					Comments
			Oppose & Testify	Oppose	No Position	Support	Support & Testify	
FG002	303.3	o						
FG003	303.3.1	x						
FS047	711.9	x						
FS065	713.14.1	x						
G001	202	x						
G042	311.1.2	o						Accessory storage
G065	407.2.5	o						
G067	407.3	o						
G068	407.4	x						
G074	407.4.3.2	o						
G075	407.4.3.6.1	o						
G076	407.6	x						Smoke compartment size
G078	407.1	x						
G080	407.11	x						
G092	422.8	x						
G093	422.8	o						Type V Const H/A allowances for ACFs
G096	425	o						
G097	425	o						
G128	508.4	x						
G200	3304.8	x						
G244	3412	o						Group I-2 alternative means
M010	303.1	o						

M035	309.2	o						
P028	403.1	o						
P069	422.11	o						
P171	713.12	o						
S338	App. L	o						

FG2 – 12
303.3

Proponent: Guy McMann MCP, Jefferson County Colorado, representing Colorado Association of Plumbing and Mechanical Officials (CAPMO) (gmcmann@jeffco.us)

Revise as follows:

303.3 Prohibited locations. Appliances shall not be located in sleeping rooms, bathrooms, toilet rooms, storage closets ~~or surgical rooms~~, or in a space that opens only into such rooms or spaces, except where the installation complies with one of the following:

1. The appliance is a direct-vent appliance installed in accordance with the conditions of the listing and the manufacturer's instructions.
2. Vented room heaters, wall furnaces, vented decorative appliances, vented gas fireplaces, vented gas fireplace heaters and decorative appliances for installation in vented solid fuel-burning fireplaces are installed in rooms that meet the required volume criteria of Section 304.5.
3. A single wall-mounted unvented room heater is installed in a bathroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 6,000 Btu/h (1.76 kW). The bathroom shall meet the required volume criteria of Section 304.5.
4. A single wall-mounted unvented room heater is installed in a bedroom and such unvented room heater is equipped as specified in Section 621.6 and has an input rating not greater than 10,000 Btu/h (2.93 kW). The bedroom shall meet the required volume criteria of Section 304.5.
5. The appliance is installed in a room or space that opens only into a bedroom or bathroom, and such room or space is used for no other purpose and is provided with a solid weather-stripped door equipped with an approved self-closing device. ~~All~~ Combustion air shall be taken directly from the outdoors, ~~in accordance with Section 304.6~~ indoors or a combination of both in accordance with Section 304. Combustion air openings in the enclosure shall not communicate with the prohibited locations listed in this section.

Reason: No designer would ever install a fuel burning appliance in a surgical room and there could conceivably be a long list of other locations where fuel burning appliances should not be installed. There is no technical justification to limit combustion air to outdoor air only in this scenario. Indoor air can be effectively utilized when openings are sized per the code and those openings do not connect the enclosure with the various rooms listed. This could save money avoiding cutting holes in exterior walls and searching for a path for ducts to run which could be very difficult to achieve.

Cost Impact: This proposal may decrease the cost of construction**.**

FG2-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

FG3 – 12
303.3.1 (New); IMC: 901.5 (New), 901.6 (New)

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

THIS IS A 2 PART CODE CHANGE. BOTH PARTS WILL BE HEARD BY THE IFGC COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDERS FOR THIS COMMITTEE.

PART I – IFGC

Add new text as follows:

303.3.1 Fireplaces and decorative appliances in Group I-2 occupancies. In addition to the requirements of Section 303.3, fuel gas-fired fireplaces and decorative appliances in Group I-2 occupancies shall not be located in sleeping rooms, storage closets, surgical rooms, toilet rooms and bathrooms located in the patient sleeping or dwelling units. Fuel gas-fired fireplaces and decorative appliances are permitted in other areas that open into such rooms or spaces only where the installation complies with all of the following:

1. Combustion air is taken directly from the outdoors,
2. Flue gases are discharged directly to the outdoors.
3. Appliance combustion chambers are separated from the environmental air on the interior of the building.
4. Appliances shall automatically shut down and stop fuel flow upon any of the following events:
   - 4.1 when temperatures exceed the appliance listing,
   - 4.2 when there is failure to ignite
   - 4.3 upon activation of the fire alarm system
5. Appliance controls are located in an approved restricted or locked location.
6. A carbon monoxide detector with a local alarm shall be provided and installed in accordance with Section 908.7 of the IBC.

PART II – IMC

Add new text as follows:

901.5 Fuel gas-fired Fireplaces and appliances in Group I-2. Fuel gas-fired fireplaces and decorative appliances located within smoke compartments containing patient sleeping rooms and surgical rooms in Group I-2 occupancies shall be installed in accordance with Section 303.3.1 of the IFGC.

901.6 Solid fuel-burning fire places and appliances in Group I-2. Solid fuel-burning fireplaces and appliances shall not be located in Group I-2 occupancies.

> **Exception:** Solid fuel-burning fireplaces and appliances shall not be prohibited in Group I-2 nursing homes provided that they are not located in smoke compartments that contain patient sleeping rooms.

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 AHC is proposing a revision to address some of the oversights in the I-Codes of long-standing and operational requirements for hospitals and healthcare facilities that has not been specifically addressed. The requirements being proposed in this code change have been long-standing provisions of the construction and operational requirements for healthcare facilities.

Justification: The language proposed in the IFGC prescribes the limitations and conditions to provide the necessary safety and limitations of hazards found within the healthcare environments to the fire and ignition sources inherent to all fireplaces and gas-fired appliances. Combustion air is restricted from being drawn from a healthcare environment for more than the last decade. It is standard practice and operational procedure to control the ignition sources in these occupancies that can contain combustible, flammable (and sometimes even explosive) material. Fire risks need to be limited to the maximum extent feasible and specific requirements for these facilities are not currently or completely addressed in the I-Codes. The physical separation of the combustion chambers of fireplaces and gas-fired equipment is required to separate and provide a barrier between the ignition sources and the environmental air within healthcare occupancies. All combustion air is required to be taken directly from the exterior of the building with one exception that is already provided for in IFGC Section 303.3.

The solid fuel burning fireplaces and appliances (decorative or heating) present open flames that cannot otherwise be controlled or extinguished like similar gas-fired appliances. The attention to and the tending of the open flames from solid fuel burning appliances require the opening any surrounding compartment while the flames and ignition sources are present; thereby, exposing the I-2 environment (within the patient smoke compartment) to the ignition sources. When gas-fired appliances are utilized, the ability to completely control the fuel source and all open flames and ignition sources is possible and does not require exposure to or tending of solid fuel burning materials . The AHC committee is recommending the restriction of solid-fuel burning fireplaces and appliances in the I-2 occupancy.

Future submissions to proposals to the IFC are being drafted to clarify, restrict and limit the ignition source hazards in healthcare occupancies that will reference these requirements being proposed in the IBC, IMC AND IFGC. The code sections that address the installation of fuel gas-fire fireplaces and appliances will also provide alternative means for compliance for existing facilities. Given the hazards present with these appliances in the I-2 Occupancies, the proposed IFC requirements will be 'retro-active' requirements for healthcare occupancies (I-2); please note, these are not new requirements for the I-2 Occupancy facilities but are needed in the I-Codes for coordination of the long-standing provision of the construction and operational requirements for healthcare facilities.

Cost Impact: No increase to the cost of construction for these facilities is associated with these code changes. This change is consistent with existing federal certification requirements.

FG3-12

PART I – INTERNATIONAL FUEL GAS CODE

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – INTERNATIONAL MECHANICAL CODE

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

FS47– 12
711.9

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

Revise as follows:

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: 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.

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 .

Cost Impact: None

Analysis: FS47 revises provisions for in elevator shaft enclosures. FS48 and FS49 delete these provisions. The committee needs to make its intent clear with respect to these provisions.

FS47-12

Public Hearing:	Committee:	AS	AM	D	
	Assembly:	ASF	AMF	DF	

FS65 – 12
713.14.1

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

Revise as follows:

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:

1. Enclosed elevator lobbies are not required at the level(s) of *exit discharge*, provided the level(s) of *exit discharge* is equipped with an *automatic sprinkler system* in accordance with Section 903.3.1.1.
2. Elevators not required to be located in a shaft in accordance with Section 712.1 are not required to have enclosed elevator lobbies.
3. Enclosed elevator lobbies are not required where additional doors are provided at the hoistway opening in accordance with Section 3002.6. Such doors shall comply with the smoke and draft control door assembly requirements in Section 716.5.3.1 when tested in accordance with UL1784 without an artificial bottom seal.
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~~
   4.1~~2~~ Group I-3 occupancies; and
   4.2~~3~~ Elevators serving floor levels over 75 feet above the lowest level of fire department vehicle access in high-rise buildings.
5. Smoke partitions shall be permitted in lieu of *fire partitions* to separate the elevator lobby at each floor where the building is equipped throughout with an *automatic sprinkler system* installed in accordance with Section 903.3.1.1 or 903.3.1.2. In addition to the requirements in Section 710 for smoke partitions, doors protecting openings in the smoke partitions shall also comply with Sections 710.5.2.2, 710.5.2.3, and 716.5.9 and duct penetrations of the smoke partitions shall be protected as required for *corridors* in accordance with Section 717.5.4.1.
6. Enclosed elevator lobbies are not required where the elevator hoistway is pressurized in accordance with Section 909.21. 7. Enclosed elevator lobbies are not required where the elevator serves only *open parking garages* in accordance with Section 406.5.

Reason: 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.

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.

Cost Impact: None

FS65-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

713.14.1-FS-Williams-Adhoc

G1 – 12
202

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

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 ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

Cost Impact: The proposed changes with not increase the cost of construction.

G1-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G32 – 12

PART I – INTERNATIONAL BUILDING CODE
202, 308.1, 308.4, 308.7 (NEW), 404.5, 425 (NEW),Table 503, 504.2, Table 509, 710.8, 712.1.8, 713.14.1, 717.5.5, Table 1016.2, Table 1018.1, Table 1018.2, 1018.4, 1107.5.3.1, 3304.8 (NEW), 3311.3 (NEW); (IFC [B] 202, Table 1016.2, Table 1018.1, Table 1018.2, 1018.4)

PART II – INTERNATIONAL FIRE CODE
IFC 903.2.6, 903.3.2, 907.2.6, 907.2.6.2, 907.2.6.4 (NEW), 909.4.6; (IBC [F] 425.5, 425.6, 425.7, 903.2.6, 903.3.2, 907.2.6, 907.2.6.2, 907.2.6.4 (NEW), 909.4.6)

Proponent: Jeff Bresette, FP&C Consultants, Inc.

THIS IS A 2 PART CODE CHANGES. BOTH PARTS WILL BE HEARD BY HEARD BY THE IBC GENERAL CODE COMMITTEE AS 2 SEPARATE CODE CHANGES. SEE THE TENTATIVE HEARING ORDER FOR THE IBC GENERAL COMMITTEE.

Revise as follows:

SECTION 202
DEFINITIONS

CARE SUITE. In Group I-5 occupancies, a group of treatment rooms, care recipient sleeping rooms and the support rooms or spaces and circulation space within the suite 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 425.4.2.

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

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.

Revise as follows:

308.1 Institutional Group I. Institutional Group I occupancy includes, among others, the use of a building or structure, or a portion thereof, in which care or supervision is provided to persons who are or are not capable of self-preservation without physical assistance or in which persons are detained for penal or correctional purposes or in which the liberty of the occupants is restricted. Institutional occupancies shall be classified as Group I-1, I-2, I-3, ~~or~~ I-4 or I-5.

308.4 Institutional Group I-2. This occupancy shall include buildings and structures used for ~~*medical care*~~ *custodial care* on a 24-hour basis for more than five persons who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
~~*Hospitals*~~
Nursing homes
~~*Psychiatric hospitals*~~

308.7 Group I-5, Hospitals. This occupancy shall include buildings and structures used for *medical care*, on a 24-hour basis for more than five persons who are *incapable of self-preservation*. This group shall include, but not be limited to, the following:

Hospitals and psychiatric hospitals.

Revise as follows:

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

Exception: In other than Groups I-2 and I-5, smoke control is not required for *atriums* that connect only two *stories.*

SECTION 425
GROUP I-5 HOSPITALS AND PSYCHIATRIC HOSPITALS

425.1 General. Occupancies in Group I-5 shall comply with the provisions of Sections 425.1 through 425.9 and other applicable provisions of this code.

425.2 Corridors. *Corridors* in occupancies in Group I-5 shall be continuous to the *exits* and separated from other areas in accordance with Section 424.3 except spaces conforming to Sections 425.2.1 through 425.2.3.

425.2.1 Areas open to corridor unlimited area shall be permitted to be open to a *corridor*, provided there is no treatment, patient sleeping or hazardous areas open to the *corridor* and are constructed as required for *corridors* and where all of the following criteria are met:

1. The open space is protected by an automatic fire detection system installed in accordance with Section 907.
2. The *corridors* onto which the spaces open, in the same smoke compartment, are protected by an automatic fire detection system installed in accordance with Section 907, or the smoke compartment in which the spaces are located is equipped throughout with quick-response sprinklers in accordance with Section 903.3.2.
3. The space is arranged so as not to obstruct the *exit access* to the required *exits*.

425.2.2 Care providers' stations. Spaces for care providers', supervisory staff, doctors' and nurses' charting, communications and related clerical areas shall be permitted to be open to the *corridor*, when such spaces are constructed as required for *corridors*.

425.2.3 Gift shops. Gift shops and associated storage less than 500 square feet (46.5 m^2) in area shall be permitted to be open to the *corridor* provided the gift shop and storage areas are fully sprinklered and storage areas are protected in accordance with Section 509.4.

425.3 Corridor walls. *Corridor* walls shall be constructed as smoke partitions in accordance with Section 711.

425.3.1 Corridor doors. *Corridor* doors, other than those in a wall required to be rated by Section 509.4 or for the enclosure of a vertical opening or an *exit*, shall not have a required *fire protection rating* and shall not be required to be equipped with self-closing or automatic-closing devices, but shall provide an effective barrier to limit the transfer of smoke and shall be equipped with positive latching. Roller latches are not permitted. Other doors shall conform to Section 716.5.

425.3.2 Locking devices. Locking devices that restrict access to the patient room from the *corridor*, and that are operable only by staff from the *corridor* side, shall not restrict the *means of egress* from the patient room except for patient rooms in mental health facilities.

425.4 Means of egress. Group I-5 occupancies shall be provided with a means of egress complying with Chapter 10 and Sections 407.4.1 through 407.4.3.6.2 and this section. 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 Sections 404 and 408 and the International Fire Code.

425.4.1 Travel distance. The travel distance between any point in a Group I-5 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).

425.4.2 Group I-5 care suites. *Care suites* in Group I-5 shall comply with Section 425.4.2.1 through 425.4.2.2 and either Section 425.4.2.3 or 425.4.2.4.

425.4.2.1 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 425.4 and 1014.2 are satisfied.

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

425.4.2.3 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 an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

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

1. 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.

425.4.2.4.1 Area. *Care suites* containing sleeping rooms shall be not greater than 7,500 square feet (696 m^2) in area.

> **Exception:** *Care suites* containing sleeping rooms shall be permitted to be not greater than 10,000 sq feet (929 m^2) in area where an automatic smoke detection system is provided throughout the *care suite* and installed in accordance with NFPA 72.

425.4.2.4.2 Exit access. Any sleeping room, or any *care suite* that contains sleeping rooms, of more than 1,000 square feet (93 m^2) shall have no fewer than two *exit access* doors from the care suite located in accordance with Section 1015.2.

425.4.2.5 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 425.4.2.5.1 and 425.4.2.5.2.

425.4.2.5.1 Area. *Care suites* of rooms, other than sleeping rooms, shall have an area not greater than 10,000 square feet (929 m^2).

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

425.4 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 (2,092 m^2) in Group I-2 occupancies and not more than 40,000 square feet in Group I-5 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.

> **Exception:** Atriums provided with smoke control complying with Section 404 are not limited in area for a smoke compartment.

425.4.1 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 compartments*. 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 m^2) for each care recipient confined to bed or gurney.
2. Not less than 6 square feet (0.6 m^2) for each ambulatory care recipient not confined to bed or gurney and for other occupants.

425.4.2 Independent egress. A *means of egress* shall be provided from each smoke compartment created by *smoke barriers* without having to return through the smoke compartment from which *means of egress* originated.

425.4.3 Horizontal assemblies. *Horizontal assemblies* supporting *smoke barriers* required by this section shall be designed to resist the movement of smoke and shall comply with Section 711.9.

(For Sections 425.5 through 425.7 see Part II)

425.8 Hyperbaric facilities. Hyperbaric facilities in Group I-5 occupancies shall meet the requirements contained in Chapter 20 of NFPA 99.

425.9 Additions. Additions shall be separated from any existing structure, which is not conforming to the provisions for new construction, by fire walls per Table 706.4 or fire barriers per Table 707.3.10 with not less than 2-hour fire resistance construction.

425.10 Elevator Lobbies. Elevator lobbies required by Sections 711.9 and 713.14.1 shall comply with all of the following:

1. Be a minimum of 120 square feet (11.1 m^2) in area.
2. Constructed as required for *smoke partitions* in accordance with Section 710.

Revise as follows:

TABLE 503
ALLOWABLE BUILDING HEIGHTS AND AREAS[a, b]
Building height limitations shown in feet above grade plane. Story limitations shown as stories above grade plane.
Building area limitations shown in square feet, as determined by the definition of "Area, building," per story

		TYPE OF CONSTRUCTION								
		TYPE I		TYPE II		TYPE III		TYPE IV	TYPE V	
GROUP	HEIGHT (feet)	A	B	A	B	A	B	HT	A	B
	STORIES (S) AREA (A)									
I-5	S A	UL UL	4 UL	2 15,000	1 11,000	1 12,000	NP NP	1 12,000	1 9,500	NP NP

(Portions of table not shown remain unchanged)

504.2 Automatic sprinkler system increase. Where a building is equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.1, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one. These increases are permitted in addition to the *building area* increase in accordance with Sections 506.2 and 506.3. For Group R buildings equipped throughout with an *approved automatic sprinkler system* in accordance with Section 903.3.1.2, the value specified in Table 503 for maximum *building height* is increased by 20 feet (6096 mm) and the maximum number of *stories* is increased by one, but shall not exceed 60 feet (18 288 mm) or four *stories*, respectively.

Exception: The use of an *automatic sprinkler system* to increase *building heights* shall not be permitted for the following conditions:

1. Buildings, or portions of buildings, classified as a Group I-2 and I-5 ~~occupancy~~ occupancies of Type IIB, III, IV or V construction.
2. Buildings, or portions of buildings, classified as a Group H-1, H-2, H-3 or H-5 occupancy.
3. Buildings where an *automatic sprinkler system* is substituted for fire-resistance rated construction in accordance with Table 601, Note d.

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
In Group E occupancies, Laboratories and vocational shops, not classified as Group H, ~~located in Group E or I-2 occupancy~~	1 hour or provide automatic sprinkler system
In Group I-2 and I-5 occupancies, laboratories not classified as a Group H	1 hour and provide automatic sprinkler system
In ambulatory care facilities, laboratories not classified as a Group H	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system

ROOM OR AREA	SEPARATION AND/OR PROTECTION
In Group I-2 and I-5 occupancies, laundry rooms over 100 square feet	1 hour
Group I-3 cells and Group I-2 and I-5 patient rooms equipped with padded surfaces	1 hour
In Group I-2 and I-5**,** physical plant maintenance shops.	1 hour
In Group I-2 and I-5 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 and I-5, Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
In Group I-2 and I-5 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

Revise as follows:

710.8 Ducts and air transfer openings. The space around a duct penetrating a smoke partition shall be filled with an *approved* material to limit the free passage of smoke. Air transfer openings in smoke partitions shall be provided with a *smoke damper* complying with Section 717.3.2.2.

Exceptions:

1. Where the installation of a *smoke damper* will interfere with the operation of a required smoke control system in accordance with Section 909, *approved* alternative protection shall be utilized.
2. Smoke dampers shall not be required in duct penetrations of smoke partitions in fully ducted heating, ventilating and air-conditioning systems and the mechanical system will shut down upon detection of smoke and in buildings provided with an *automatic sprinkler system* complying with Sections 903.3.1.1 and 903.3.2.

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.

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. Elevator lobbies within Group I-5 occupancies shall comply with Section 425.10

Exceptions:

1. through 7. *(Exceptions not shown remain unchanged)*

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 shall not be required in Ambulatory Care Facilities and Groups I-2 and I-5 occupancies where the HVAC 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 Section 903.3.1.1 and equipped with quick response sprinklers in accordance with Section 903.3.2.

Revise as follows:

TABLE 1016.2 (IFC [B] 1016.2)
EXIT ACCESS TRAVEL DISTANCE[a]

OCCUPANCY	WITHOUT SPRINKLER SYSTEM (feet)	WITH SPRINKLER SYSTEM (feet)
A, E, F-1, M, R, S-1	200	250[b]
I-1	Not Permitted	250[c]
B	200	300[c]
F-2, S-2, U	300	400[c]
H-1	Not Permitted	75[c]
H-2	Not Permitted	100[c]
H-3	Not Permitted	150[c]
H-4	Not Permitted	175[c]
H-5	Not Permitted	200[c]
I-2, I-3, I-4, I-5	Not Permitted	200[c]

For SI: 1 foot = 304.8 mm.

a. See the following sections for modifications to *exit access* travel distance requirements:
Section 402.8: For the distance limitation in *malls*.
Section 404.9: For the distance limitation through an *atrium* space.
Section 407.4: For the distance limitation in Group I-2.
Sections 408.6.1 and 408.8.1: For the distance limitations in Group I-3.
Section 411.4: For the distance limitation in special amusement buildings.
Section 425.3: For the distance limitation in Group I-5.
Section 1015.4: For the distance limitation in refrigeration machinery rooms.
Section 1015.5: For the distance limitation in refrigerated rooms and spaces.
Section 1021.2: For buildings with one *exit*.
Section 1028.7: For increased limitation in assembly seating.
Section 1028.7: For increased limitation for assembly open-air seating.
Section 3103.4: For temporary structures.
Section 3104.9: For pedestrian walkways.

b. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1 or 903.3.1.2. See Section 903 for occupancies where *automatic sprinkler systems* are permitted in accordance with Section 903.3.1.2.

c. Buildings equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1.

TABLE 1018.1 (IFC [B] TABLE 1018.1)
CORRIDOR FIRE-RESISTANCE RATING

OCCUPANCY	OCCUPANT LOAD SERVED BY CORRIDOR	REQUIRED FIRE-RESISTANCE RATING (hours)	
		Without sprinkler system	With sprinkler system
I-2[a], I-4, I-5	All	Not permitted	0

(Portions of Table not shown remain unchanged)

TABLE 1018.2 (IFC [B] TABLE 1018.2)
MINIMUM CORRIDOR WIDTH

Occupancy	Width (minimum)
Any facilities not listed below	44 inches
Access to and utilization of mechanical, plumbing or electrical systems or equipment	24 inches
With a required occupancy capacity less than 50	36 inches
Within a dwelling unit	36 inches
In Group E with a *corridor* having a required capacity of 100 or more	72 inches
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*	72 inches
Group I-2 and I-5 in areas where required for bed movement	96 inches

For SI: 1 inch = 25.4 mm.

1018.4 (IFC [B] 1018.4) Dead ends. Where more than one *exit* or *exit access doorway* is required, the *exit access* shall be arranged such that there are no dead ends in *corridors* more than 20 feet (6096 mm) in length.

Exceptions:

1. In occupancies in Group I-3 of Occupancy Condition 2, 3 or 4 (see Section 308.5), the dead end in a *corridor* shall not exceed 50 feet (15 240 mm).
2. In occupancies in Groups B, E, F, I-1, M, R-1, R-2, R-4, S and U, where the building is equipped throughout with an *automatic sprinkler system* in accordance with Section 903.3.1.1, the length of the dead-end *corridors* shall not exceed 50 feet (15 240 mm).
3. A dead-end *corridor* shall not be limited in length where the length of the dead-end *corridor* is less than 2.5 times the least width of the dead-end *corridor*.
4. In occupancies in Group I-5 occupancies where the building is equipped throughout with an *automatic sprinkler system* in accordance with Sections 903.3.1.1 and 903.3.2 the length of the dead-end corridor shall not exceed 30 feet (9 144 mm).

Revise as follows:

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 and Group I-5 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.

Revise as follows:

3304.8 Group I-5. For buildings employing a *defend in place* method in Group I-5 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-5. Temporary construction within corridors serving bed or stretcher movement in Group I-5 occupancies shall not reduce the corridor width to less than 60 inches.

PART II – INTERNATIONAL FIRE CODE

Add new definition as follows:

IBC [F] 425.5 Automatic sprinkler system. Quick-response or residential sprinklers shall be provided in accordance with Section 903.3.2

IBC [F] 425.6 Fire alarm system. A fire alarm system shall be provided in accordance with Section 907.2.6.

IBC [F] 425.7 Automatic fire detection. Group I-5 occupancies shall be equipped with smoke detection as required in Section 425.2.

Revise as follows:

903.2.6 (IBC [F] 903.2.6) Group I. An *automatic sprinkler system* shall be provided throughout buildings with a Group I *fire area*.

Exceptions:

1. An automatic sprinkler system installed in accordance with Section 903.3.1.2 shall be permitted in Group I-1 facilities.
2. An *automatic sprinkler system* installed in accordance with Section 903.3.1.3 shall be allowed in Group I-1 facilities when in compliance with all of the following:
   2.1. A hydraulic design information sign is located on the system riser;
   2.2. Exception 1 of Section 903.4 is not applied; and
   2.3. Systems shall be maintained in accordance with the requirements of Section 903.3.1.2.
3. An *automatic sprinkler system* is not required where day care facilities are at the *level of exit discharge* and where every room where care is provided has at least one exterior exit door.
4. In buildings where Group I-4 day care is provided on levels other than the *level of exit discharge*, an *automatic sprinkler system* in accordance with Section 903.3.1.1 shall be installed on the entire floor where care is provided and all floors between the level of care and the level of *exit discharge*, all floors below the *level of exit discharge*, other than areas classified as an open parking garage.
5. In Group I-5 occupancies, an *automatic sprinkler system* is not required in closets less than 6 square feet in area.

903.3.2 (IBC [F] 903.3.2) Quick-response and residential sprinklers. Where *automatic sprinkler systems* are required by this code, quick-response or residential automatic sprinklers shall be installed in the following areas in accordance with Section 903.3.1 and their listings:

1. Throughout all spaces within a smoke compartment containing care recipient *sleeping units* in Group I-2 in accordance with this code.
2. Throughout all spaces within a smoke compartment containing treatment rooms in ambulatory care facilities.

3. *Dwelling units* and *sleeping units* in Group I-1 and R occupancies.
4. Light-hazard occupancies as defined in NFPA 13.
5. Group I-5 occupancies.

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 and 907.2.6.4.

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.

907.2.6.2 (IBC [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 907.5.

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 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.

907.2.6.4 (IBC [F] 907.2.6.4) Group I-5. Hospitals shall be equipped with smoke detection as required in Section 425.

909.4.6 (IBC [F] 909.4.6) Duration of operation. All portions of active or passive smoke control systems shall be capable of continued operation after detection of the fire event for a period of not less than either 20 minutes or 1.5 times the calculated egress time, whichever is ~~less~~ greater.

Reason: Hospitals historically are treated differently than other occupancies based on the need to defend in place during an emergency and that exit corridors are a work area in a hospital setting. This code change recognizes that hospitals are to be treated as a separate and distinct occupancy within the confines of the codes. The basic premise for the change is to remove health care hospitals and psychiatric hospitals from the I-2 umbrella and create a new Group I-5 category. Each of the code changes above have been brought forth by the Ad Hoc Committee for Health Care during the course of 2011, with a few exceptions. Although creating different Conditions of use within a Group I-2 occupancy is one approach, it doesn't recognize the need for separating hospitals into their own occupancy category.

Group I-3 occupancies are defined by different Conditions and are meant for restraint with different levels of securing occupants based on their level of movement capacities, from less secure to more secure. Institutional occupancies have not only different levels of supervision but also different levels of care. The current Group I-2 occupancy category has similar care levels for those that are incapable of self-preservation, but there are historical reasons why hospitals have more restrictive and prescriptive requirements than the other classifications within Group I-2, such as detoxification facilities and nursing homes. Switching hospitals to a separate occupancy is the next logical step in the progression of hospital development for the I-codes.

The scoping classification in Section 308.4 has been revised to reflect that those in nursing home, detoxification facilities, and foster care facilities receive custodial care as defined within the Section 202. Section 308.5 has been added for Group I-5 to reflect the need for medical care, also defined in Section 202.

Section 425 has been created specifically for Group I-5 occupancies. There are some code sections that overlap each of the I-2 and I-5 occupancy classifications and those are reflected above as well. The proposals brought forth by the Ad Hoc Committee for Health Care have been researched thoroughly in 2011 and all reasoning statements are well documented. Based on the work of the Ad Hoc Committee for Health Care, all of these code changes are based on the requirements of external agencies enforcing life

safety requirements from the NFPA standards. It is no secret that The Joint Commission has required the use of NFPA 101 for hospitals for decades. For this agency to change from using NFPA 101 to the IBC, drastic changes in the perception of the IBC and ease of its use for hospitals are needed.

Cost Impact: There is no cost impact for these changes as the industry has been using similar guidelines for many years as within the proposed changes through The Joint Commission regulations.

G32-12
PART I – IBC – G

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

PART II – IFC

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G35 – 12
202, 308.3, 308.4 (IFC [B] 202)

Proponent: Jerry Rosendahl, President, National Association of State Fire Marshals (jerry.rosendahl@state.mn.us)

Revise as follows:

308.3 Institutional Group I-1. This occupancy shall include buildings, structures or portions thereof for more than 16 persons who reside on a 24 hour basis in a supervised environment and receive *custodial care*. The persons receiving care are capable of self preservation. This group shall include, but not be limited to, the following:

Alcohol and drug centers
Assisted living facilities with residents capable of self preservation
Congregate care facilities
Convalescent facilities
Group homes
Halfway houses
Residential board and *custodial care* facilities
Social rehabilitation facilities

308.4 Institutional Group I-2. This occupancy shall include buildings and structures used for *medical care* on a 24-hour basis for more than five persons who are *incapable of self preservation*. This group shall include, but not be limited to, the following:

Foster care facilities
Detoxification facilities
Hospitals
Nursing homes
Psychiatric hospitals
Assisted living facilities with residents incapable of self preservation

Revise as follows:

ASSISTED LIVING FACILITIES. Custodial care congregate residential settings that provide or coordinate personal and health care services, 24-hour supervision, and assistance (scheduled and unscheduled) for the *health care maintenance* of adults who are aged, infirm or disabled and who are cared for in a primarily residential setting.

HEALTH CARE MAINTENANCE. The protection, general supervision and oversight of the physical and mental well-being of an aged, infirm or disabled individual. Residents may or may not need assistance to evacuate.

CUSTODIAL CARE. Assistance with day-to-day living tasks; such as assistance with cooking, taking medication, bathing, using toilet facilities and other tasks of daily living. Custodial care includes occupants who evacuate at a slower rate and/or who have mental and psychiatric complications~~.~~ and may be incapable of self preservation.

Reason: The current code language limits I-2 to only medical care facilities, which in itself would be in conflict with foster child care facilities. There are many facilities housing residents incapable of self-preservation that are not medical facilities by state definitions. This represents a huge gap in the code. With I-2 as a classification for only those facilities providing medical care and I-1 for only those capable of self-preservation, the IBC has no classification for a facility in which residents are under the care, supervision, protection or under the responsible care of the facility operator, and who are not capable of self-preservation. We do not object to what the CTC committee is attempting to do, but the CTC should recognize that the code certainly should be clear about the protection required for all individuals who are under the care of others and develop provisions that will protect all individuals. In

order to make the proper distinction and close the code's gap, the definition of "assisted living facilities" is offered. The phrase "health care maintenance" appears only in the definition of "assisted living facilities".

Cost Impact: The code change proposal will not increase the cost of construction.

G35-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G42 – 12
311.1.2 (NEW) (IFC [B] 202)

Proponent: Tod Connors, Arlington County (VA) Department of Community Planning, Housing, and Development/Division of Inspection Services, representing self

Revise as follows:

311.1.2 Accessory storage spaces. A room or space used for storage purposes that is less than 100 square feet (9.3m$^{2)}$ in area and accessory to another occupancy will be classified as part of that occupancy. The aggregate area of such rooms or spaces shall not exceed the allowable area limits of Section 508.2.

Reason: Storage rooms were removed from Incidental Uses, Table 509. Storage is now treated as a mixed use condition and must meet either the requirements of 508.2 Accessory occupancies, 508.3 Nonseparated occupancies, or 508.4 Separated occupancies. When applying these mixed use sections in B occupancy buildings of IIB or IIA construction, an S-I storage room cannot be placed on the highest floor allowed by Table 503 Allowable Building Heights and Areas and Section 504 Building Height. The 100 square foot lower limit would allow small storage rooms on upper floors. This area is the same lower limit used in the Incidental Use Table when storage rooms were last included. The statement limiting area to the limits under current Accessory occupancy requirements is to preclude a large number of small storage rooms in excess of what other code sections limit.

Cost Impact: The code change proposal will not increase the cost of construction.

G42-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G65 – 12
407.2.5 (NEW)

Proponent: Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

Add new text as follows:

407.2.5 Cooking facilities. In Group I-2 nursing homes, rooms or spaces that contain domestic cooking facilities shall be permitted to be open to the corridor where the number of sleeping units within the smoke compartment is limited to 30 residents and all of the following requirements are met:

1. Only one area with domestic cooking facilities is permitted within a smoke compartment.
2. The types of cooking appliances are are limited to ovens, cooktops, ranges, warmers and microwaves.
3. The corridor is a clearly identified space delineated by construction or floor pattern, material or color.
4. The space containing domestic cooking facilities shall be arranged so as not to obstruct access to the required exit.
5. A domestic cooking hood installed and constructed in accordance with Section 505 of the International Mechanical Code is provided over cooktops and ranges.
6. The domestic cooking hood provided over the cooktop or range shall be equipped with an automatic fire-extinguishing system of a type recognized for protection of domestic cooking equipment. Pre-engineered automatic extinguishing systems shall be tested in accordance with UL 300A and listed and labeled for the intended application. The system shall be installed in accordance with this code, its listing and the manufacturer's instructions.
7. A manual actuation device for the hood suppression system shall be installed in accordance with Section 904.11.1 and 904.11.2 of the International Fire Code.
8. A shutdown for the fuel and electrical power supply to the cooking equipment shall be provided and shall be accessible only to staff.
9. A portable fire extinguisher shall be installed within 30 feet (9144 mm) of domestic cooking appliances complying with Section 906.

Reason: The ICC Board established the ICC Code Technology Committee (CTC) as the venue to discuss contemporary code issues in a committee setting which provides the necessary time and flexibility to allow for full participation and input by any interested party. The code issues are assigned to the CTC by the ICC Board as "areas of study". Information on the CTC, including: meeting agendas; minutes; reports; resource documents; presentations; and all other materials developed in conjunction with the CTC effort can be downloaded from the following website: http://www.iccsafe.org/cs/cc/ctc/index.html. Since its inception in April, 2005, the CTC has held twenty-two meetings – all open to the public.

As nursing homes move away from institutional models, it is critical to have a functioning kitchen that can serve as the hearth of the home. Instead of a large centralized, institutional kitchen where all meals are prepared and delivered to a central dining room or the resident's room, the new "household model" nursing home uses de-centralized kitchens and small dining areas to create the feeling and focus of home. For persons with dementia, it is particularly important to have spaces that look familiar, like the kitchen in their former home ,to increase their understanding and ability to function at their highest level.

Allowing kitchens, that serve a small, defined group of residents, to be open to common spaces, and in some instances corridors, are critically important to enhancing the feeling and memories of home for older adults. This allows residents to see and smell the food being prepared, which can enhance their appetites and evoke positive memories. Some residents, based on their abilities and cognition level may even be able to participate in food preparation activities such as stirring, measuring ingredients, peeling vegetables, or folding towels. This becomes a social activity, where they can easily converse with the staff member cooking, as well as a way for the resident to maintain their functional abilities and to feel that they are still an important contributing member of society.

We know that unattended cooking equipment is the leading cause of fires. However, allowing the kitchen to be open also allows the nursing home staff to more carefully supervise the space so that if an incident were to occur, it would be spotted and dealt with faster than if the kitchen was completely behind closed doors. Health care facilities have the benefit of having awake-staff 24 hours a day. These staff members know the building layout and the residents well, and are trained to handle emergencies. The locked fuel shut-off switch will prevent cooking activities occurring without staff knowledge.

Moreover, studies have shown that a single low-flow residential sprinkler head is effective "to control both [a] cooking oil fire and [an] appliance fire, despite shielding by the cabinets, while extinguishing the fire spread to the cabinets and walls." [ref: NIST special publication 1066: Residential kitchen fire suppression research needs, Madrzykowski, Hamins & Mehta, Feb. 2007] As all nursing homes are already required to have quick-response sprinklers throughout, we believe that more than adequate safety is being provided when preparing food up to 16 residents, and by adding the automatic chemical suppression in the hood, we are also

providing more than adequate safety for up to 30 residents. The volume of meals prepared in both of these cases are much more similar to a single-family home rather than a commercial restaurant setting.

The fire safety record for nursing homes is one of the lowest of any occupancy in the United States based on NFPA fire data. The number of fire deaths from multiple death fires has averaged 1.7 deaths/year for the last 20 years. The number of single fire deaths in nursing averages 3-5 deaths/ year. The population of nursing homes is 1.7 million. Compared to the number of residents 65 or over living in residential occupancies (32 million) and the number of fire deaths/year of this population, **a resident over 65 in a nursing home is 12 times less likely to die in a fire than a resident over 65 living in a private residential occupancy.**

All new nursing homes have been required to be sprinklered since 2003, and currently 95% of all existing nursing homes are sprinklered. All existing nursing homes are required by federal regulations to be fully sprinklered by August 13, 2013. **There has never been a multiple death fire in a fully sprinklered nursing home** based on 15 years of NFPA fire data. A review of nursing home fire data from 1970 (41 years) not a single multiple death nursing home fire resulted from a fire originating in a kitchen. The majority of single death fires are the result of a resident smoking while on oxygen or the ignition of their clothing or bedding from smoking material. We could find no fire data of any resident of a nursing home, single or multiple death fire, dying from a fire that originated in a kitchen.

In nursing home occupancies, the strategy is to defend in place, taking advantage of the smoke compartments to move residents away from smoke and fire. The smaller size of the household units that would contain these open kitchens, rather than the larger institutional style nursing homes many of us know, means that evacuations to an adjacent compartment or to the exterior is faster and the smaller size of any one of these units limits the number of people at risk.

An additional safety feature, in this proposal, is the inclusion of a deactivation switch that is locked and only accessible to staff. This will prevent unauthorized use of the cooking appliance without staff supervision. Staff members would need to be trained not only in basic food handling precautions but also in basic fire safety and extinguisher use. A fire extinguisher would be required in each kitchen area in addition to the suppression required in the hood and the sprinklers in the facility. These are all additional levels of safety that are being added to this application and will help to protect the residents.

The choice of thirty or fewer residents as the limiting number of residents that could be housed within a single unit with an open kitchen was based on a requirement from the Veterans Administration to serve the needs in their facilities, as well as current trends in the design of these types of facilities. These small nursing homes or nursing home “household” units generally range in size from 10 to 30 residents. The committee that drafted this proposal included providers, industry representatives, code and design professionals who are familiar with this design model and its operation. This group’s conclusion was that 30 residents allowed this open kitchen application for the overwhelming majority of facilities in the industry because staffing for thirty is widely considered an economical staffing ratio for the majority of organizations. Yet the designs for this number are still relatively small in size. These designs range from around 6,000 square feet for the smallest 10 person units to around 17,000 square feet even for units housing as many as 30. In general, at these unit sizes, the distances to exits, either to the exterior or to other compartments is much shorter than commonly seen in traditional nursing homes. This committee felt that in combining the added safety features proposed along with the improved evacuation distances and reduced number of people at risk, the limitation of 30 people maintained good safety, yet met the needs of a majority of the industry.

If this proposal is approved, there will be a reference in Table 906.1 for fire extinguishers.

Example of Kitchen open to Corridor.

Example of shutdown

Cost Impact: This code change proposal will not increase the cost of construction. Reduction

G65-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

407.2.5#1-G-BALDASSARRA-CTC

G67 – 12
407.3

Proponent: Sarah A. Rice, C.B.O., The Preview Group (srice@preview-group.com)

Revise as follows:

407.3 Corridor wall construction. *Corridor* walls shall be constructed as smoke partitions in accordance with Section 710.

Exception. Corridor walls in suites.

Reason: Over the past several cycles, the IBC has evolved to regulate the design of Group I-2 occupancies (hospitals and nursing care on a 24 hour basis) in a manner consistent with the regulations required by the Centers for Medicare & Medicaid Services (CMS) and The Joint Commission for accreditation (NFPA 101-2000; Life Safety Code). One of the biggest healthcare design features added in recent years is the concept of "care suites." By definition in IBC Section 202, a "care suite" is "A group of treatment rooms, care recipient sleeping rooms and their associated support rooms or spaces and circulation space within Group I-2 occupancies where staff are in attendance for supervision of all care recipients within the suite, and the suite is in compliance with the requirements of Section 407.4.3." Typical care suites are those where the patients need close supervision and monitoring, and include ICU areas. Because of the heighten awareness in the care suite with 24-hour supervision, some of the typical fire protection features are allowed to be omitted. While there is a lot of interpretation in regard to how corridors walls in a care suites are to be constructed, this code change seeks to make it clear that when there are corridors in a care suite they are not required to be smoke partitions, and that the doors in those walls are not required to meet limit the transfer of smoke or be positive latching.

Cost Impact: The proposed changes will not increase the cost of construction.

G67-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G68 – 12
202, 407.4, 422.3.1 (NEW)

Proponent: John Williams, CBO, Chair, ICC Ad Hoc Committee on Healthcare and Carl Baldassarra, P.E., FSFPE Chair, ICC Code Technology Committee (CTC)

THIS CODE CHANGE WILL BE HEARD BY THE IBC MEANS OF EGRESS COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

Revise as follows:

407.4 Means of egress. Group I-2 occupancies shall be provided with 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.

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.

Add new definition to Chapter 2 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.

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]

Cost Impact: This proposal will not increase the cost of construction; the healthcare industry already has this documentation and information on file for compliance with state licensing and federal certification standards.

G68-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G74 – 12
407.4.3.2

Proponent: Lennon Peake, P.E., Koffel Associates, Inc., representing self (lpeake@koffel.com)

Revise as follows:

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

Reason: The existing language only references that care suites must be separated from other portions of the building and could be interpreted that care suites are not required to be separated from each other. The intent of the proposal is to clarify that care suites must be separated from other care suites by a smoke partition especially since Paragraph 407.4.3.1 permits egress through an adjoining suite.

Cost Impact: There is no cost impact as a result of this proposal as it is intended to clarify existing requirements.

G74-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G75 – 12
407.4.3.6.1

Proponent: Lennon Peake, P.E., Koffel Associates, Inc., representing self (lpeake@koffel.com)

Revise as follows:

407.4.3.6.1 Area. *Care suites* of rooms, other than sleeping rooms, shall have an area not greater than ~~10,000~~ 12,000 square feet (~~929~~ 1 161 m^2).

> **Exception:** *Care suites* not containing sleeping rooms shall be permitted to be not greater than 15,000 sq feet (1 394 m^2) in area where an automatic smoke detection system is provided throughout the *care suite* in accordance with Section 907.

Reason: The 10,000 square ft limitation for care suites not containing sleeping rooms was in Codes before sprinkler protection was required in Group I-2 occupancies. Sprinkler protection provides additional life safety to building occupants which justifies the area increase to 12,500 square ft. Providing an automatic smoke detection system throughout a care suite provides an additional level of life safety which justifies increasing the area to 15,000 sq ft. Sprinkler protection and smoke detection are very effective measures of providing life safety to building occupants address the proposed increase in the area of a care suite not containing sleeping rooms.

Cost Impact: There is not cost impact as a result of this proposal as it allows more options in the design of a suite.

G75-12

Public Hearing: Committee:	AS	AM	D	
Assembly:	ASF	AMF	DF	

G76 – 12
407.5

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

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 m^2)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, 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. See program analysis at the following link.
http://www.iccsafe.org/cs/AHC/Pages/WG-General.aspx

Cost Impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionately decrease.

G76-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

407.5-G-Williams-Adhoc

G78 – 12
407.10

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

Revise as follows:

SECTION 425
HYBERBARIC FACILITIES

~~407.10~~ 425.1 Hyperbaric facilities. Hyperbaric facilities ~~in Group I-2 occupancies~~ shall meet the requirements contained in Chapter 20 of NFPA 99.

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 asses' 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 expands the scope of an existing requirement to include all of the occupancies that have hyberbaric chambers installed.
Hyperbaric chambers are used in multiple occupancy types, not just Group I-2. Most of the typical patients that use these devices are outpatients, and are typically housed in Group B occupancies. As the popularity of these devices increase, *these are showing up in residential settings as well*. This proposal would increase the scope of these requirements to anywhere a hyperbaric chamber is seen.

Cost Impact: This change will increase the cost of construction for facilities that are not currently federally certified.

G78-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G80 – 12
407.11

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

Add new text as follows:

407.11 Electrical systems. In Group I-2 occupancies, the essential electrical power for electrical components, equipment and systems shall be designed and constructed in accordance with the provisions of Chapter 27 and NFPA 99.

Add new text as follows:

[F] 2702.2.16 Group I -3 Occupancies. Essential electrical power for Group I-2 occupancies shall be in accordance with Section 407.11.

Reason: Currently emergency power systems are required to comply with NFPA 99 by the Center for Medicare/Medicaid Services (CMS) in order for a facility to receive federal reimbursement funds. Providing the code language requiring compliance with NFPA 99 will ensure the required power system is provided in Group I-2 occupancies. While there is a reference to NFPA 99 in NFPA 70, there is no direct reference. This closes up a gap in the requirements. A reference to Chapter 27 will comprehensively address electrical systems including references to NFPA 70, 110 and 111.

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 .

Cost Impact: The proposed changes will not increase the cost of construction.

G80-12

Public Hearing: Committee:	AS	AM	D	
Assembly:	ASF	AMF	DF	

G92 – 12
422.3

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

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 m^2) 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 ~~22,500~~ 40,000 square feet (~~2092 m^2~~ 3719 m^2). 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, 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 accomodate the operational needs of these facilities.

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

- October 1984 BCMC – 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. See program analysis at the following link. **http://www.iccsafe.org/cs/AHC/Pages/WG-General.aspx**

Cost impact: This proposal will help to decrease the cost of construction. Increasing the compartment size will reduce the number of smoke and fire dampers and lifetime maintenance costs could proportionally decrease.

G92-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G93 – 12
422.8 (NEW)

Proponent: Joe Nebbia and Mark Nowak, Steel Framing Allinace

Add new text as follows:

422.8 Allowable Building Heights and Areas. For Type V Construction, *ambulatory care facilities* shall be limited to the height and area allowances for Group I-2 buildings found in Table 503.

Reason: Ambulatory care facilities often house multiple care recipients that are partially or fully incapacitated during their treatment, making egress during a fire especially difficult if not impossible. Designers typically recognize the issues with evacuation and apply a defend-in-place approach.

A new section (Section 422 in the 2012 edition) was added to the code in 2009 and subsequently modified in 2012 adding specific requirements for separation, smoke compartments, refuge areas, independent egress, sprinklers, and alarms for ambulatory care facilities. A corresponding change to the code reclassified ambulatory care facility as Group B. Supposedly, the use group re-classification was a trade-off in exchange for the additional requirements in Section 422. However, these modifications to the code failed to recognize important aspects of the defend-in-place approach and leave some of the most venerable members of society at higher risk during fires.

This change would ensure that for Type V construction, which has the least restrictions on combustible materials of any construction type, full fire protection equivalent to or better than the pre-2009 code is made available to care recipients in vulnerable situations.

This proposal still allows all other types of construction that do not rely on the use of combustible framing materials to take advantage of the less restrictive Group B height limits in accordance with the changes approved in the 2009 edition of the code.

Defend-in-place is a concept that relies on multiple methods to allow a fire to be identified and eliminated while occupants are in a safe place. It is employed in a variety of buildings including but not limited to hotels, apartments, hospitals, and prisons. The 2008 NFPA Fire Protection Handbook (Chapter 20-Section 15) addresses healthcare occupancies. This section of the Handbook focuses on "those facilities that pose the greatest risk due to the impairment of occupants and/or lack of ambulatory capabilities of the occupants." It includes ambulatory healthcare facilities as buildings that fall into this category, and stresses the defend-in-place principles.

In reference to ambulatory and other healthcare occupancies, the Handbook states that "Buildings of two or more stories should be constructed of noncombustible materials…" It further emphasizes that "Vertical evacuation of occupants within a healthcare facility is, at best, difficult and time consuming."

In summarizing the important points of the defend-in-place concept for healthcare facilities (including ambulatory care facilities), the Handbook identifies fire-resistive construction as one of the important components of the approach. Unfortunately, the changes in the 2009 and 2012 code failed to retain this important part of the principle.

The importance of protecting the occupants in an ambulatory care facility is reinforced by the fact that prior to 2009 ambulatory care facilities would have been classified as Group I-2 construction. Section 504.2 of the code does not allow I-2 buildings to take the allowable height increase for sprinklers. This makes it difficult to rationalize the height increases that come with reclassification to group B. Changing the group classification and distinguishing ambulatory care facilities from other health care facilities where the occupants are incapable of caring for themselves through a definition that limits the duration of the stay does not change the risk to the occupants. Permitting the use of combustible materials to in taller buildings further increases the risk.

Cost Impact: The code change proposal will increase the cost of construction. The proposal will indirectly increase costs for a small number of buildings that will be limited in height under Type V construction.

G93-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G96 – 12
423.1, 423.3 (NEW), 423.3.1 (NEW), 423.3.2 (NEW), 423.4 (NEW)

Proponent: Stephen V. Skalko, P.E., Portland Cement Association, Eric T. Stafford, P.E., representing Institute for Business and Home Safety, Jason Thompson, P.E., National Concrete Masonry Association, representing Masonry Alliance for Codes and Standards

Revise as follows:

423.1 General. In addition to other applicable requirements in this code, storm shelters shall be constructed in accordance with ICC-500 shall be provided in accordance with Section 423.3.

423.1.1 Scope. This section applies to the construction of storm shelters constructed as separate detached buildings or constructed as safe rooms within buildings for the purpose of providing safe refuge from storms that produce high winds, such as tornados and hurricanes. Such structures shall be designated to be hurricane shelters, tornado shelters, or combined hurricane and tornado shelters.

423.3 Storm shelters required. Storm shelters shall be provided for occupants of buildings in accordance with Sections 423.3.1 and 423.3.2.

Exceptions:

1. *Buildings* meeting the requirements for shelter design in ICC/NSSA 500.
2. Where storm shelters within 1/4-mile of the proposed *building* are available and have adequate size to accommodate the added occupant load of the proposed *building*.
3. Where the code official determines the *building* size, location or occupant load does not warrant shelters.

423.3.1 Hurricane areas. In hurricane-prone regions as defined in Section 1609.2 of the *International Building Code,* the following buildings shall be provided with storm shelters:

1. Group A-3 community halls, gymnasiums and libraries.
2. Group B civic administration facilities.
3. Group E, I-1, I-2, I-3, M or R occupancies.
4. Buildings assigned to Risk Category I in accordance with Section 1604.5 of the *International Building Code.*

423.3.2 Tornado areas. In areas where the shelter design wind speed for tornadoes of Figure 304.2.(1) of ICC/NSSA 500 is 160 mph or greater, tornado shelters shall be provided, except that such shelters shall not be required for buildings classified as Group U occupancies or classified as Rick Category I according to Table 1604.5.

423.4 Combined hurricane and tornado shelters. Where combined hurricane and tornado shelters are provided the shelter shall comply with the more stringent requirements of ICC/NSSA-500 for both types of shelters.

Reason: Jurisdictions in high-wind event prone areas are in need of criteria to establish where the presence of storm shelters is required. This continues to be a request from jurisdictions following disastrous high wind events. Following the 2010 disasters in mid-America, specifically during a FEMA sponsored workshop in Alabama, jurisdictions sought information and guidance for integrating storm shelters into their building code requirements. Routinely, and specifically at this workshop, jurisdictions have been directed to the ICC 500, FEMA documents, and design tools provided by the industry sectors supporting the proper design and construction of storm shelters. Increasingly, after every such event, it becomes apparent that the tools for the design and construction of storm shelters are readily available, but what jurisdictions lack is the guidance as to where storm shelters should be required.

In Section 423 of the International Building Code there are provisions referencing the use of ICC 500-2008 ICC/NSSA *Standard for the Design and Construction of Storm Shelters* for design and construction of storm shelters. However, the IBC does

not specify which buildings should be provided with storm shelters. This proposal is to places requirements in the IBC specifying when storm shelters are appropriate.

The first exception communicates that entire buildings can be designed to satisfy the requirements of ICC/NSSA 500. Such buildings not only provide improved life safety but will minimize the amount of energy and resources required for repair, replacement removal and disposal of building materials and contents. It also increases the likelihood these buildings will be available post-disaster to provide for community needs during recovery. The second exception permits the use of a nearby shelter to be used that can be reached in a reasonable amount of time from the building being constructed.

Incorporating storm shelters and community shelters into the design of buildings located in high wind regions enhances the living environment for the occupants. These shelters become havens for protecting people from injury or death due to structural collapse and windborne debris. Additional benefits are enhanced life safety, security and occupant comfort; potentially less demand on community resources required for emergency response and healthcare; and allowing facilities to be more readily adapted for re-use if there is a change of occupancy in the future. The photos below reflect the importance of providing storm shelters in high wind areas.

Tornado damage – FEMA

Hurricane Shelter - FEMA

Tornado Shelter - FEMA

Cost Impact: This proposal will increase the cost of construction

G96-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

423-G-SKALKO-STAFFORD-THOMPSON

G97 – 12
425 (NEW)

Proponent: Larry Stump (lstump@willdan.com), Willdan Engineering, representing Arizona Building Officials Code Review & Development Committee

Add new text as follows:

SECTION 425
DECONTAMINATION ROOMS

425.1 General. Decontamination Rooms shall comply with the provisions of this section and other applicable provisions of this code.

425.2 Definitions. The following terms are defined in Chapter 2:
DECONTAMINATION ROOM
COLD ZONE
HOT ZONE
TRIAGE AREA
WARM ZONE

425.3 Location. A decontamination room shall be provided with an outside entry located as far as practical, but not less than 20 feet from the closest hospital entrance. The decontamination rooms shall be provided with an ambulance staging area.

425.4 Design and construction. All zones within the decontamination room shall be separated by manually activated power sliding glass doors. No two doors shall operate at the same time. Each zone in the decontamination room shall be negative in pressure to the next zone in the progression of route prior to activation of the door between the two zones. The decontamination room shall be served by a dedicated HVAC system specifically designed to support this function and shall not serve other areas of the hospital. Multiple showers with privacy curtains shall be provided for ambulatory and non-ambulatory patient assistance. The room design shall provide for full decontamination of a person within 15 minutes. The cold zone shall connect to the emergence room by means of a connecting corridor. The connecting corridor shall have a minimum width of ninety-six inches and doors shall accommodate the largest non-ambulatory piece of equipment.

425.5 Surfaces. Surfaces shall be smooth, nonporous, and scrubbable. Floors, walls and monolithic ceiling surfaces shall be seamless and be coated with an inert material that enables all surface areas to be washed with soap, water and rinsed by a hose wand. All fixtures, trims and handrails shall be water proof, and acid and rust resistant.

425.6 Electrical. Electrical design, fixtures, switches, receptacles and any other electrical appurtenance associated with a decontamination room shall comply with this section.

425.6.1 Lighting. Explosion-proof lighting fixtures that conform to NFPA 70 Class 1, Division 2, Group D shall be installed. Lighting fixtures shall be UL-listed, explosion-proof pendent type. All luminaries installed in wet locations shall be marked SUITABLE FOR WET LOCATIONS

425.6.2 Switches. Control switches for lighting and equipment in the hot zone shall be located in the warm zone. All switches in the decontamination room shall be equipped with water proof covers, and shall be intrinsically safe per NEC Section 500.7(E).

425.6.3 Receptacles. The decontamination room is considered a wet location and NEC requirements for wet locations are applicable. All receptacles shall meet the requirements of NEC Section 500.7(E).

425.6.4 Standby power. Mechanical ventilation equipment, lighting, receptacles, water heaters, doors and other equipment required for the operation of the decontamination room shall be connected to a standby power system in accordance with Section 909.11.

425.7 Mechanical. Mechanical design, ducts and equipment serving a decontamination room shall comply with this section.

425.7.1 Ventilation. The decontamination room shall be supplied by an external air conditioning system. The mechanical ventilation equipment shall provide not less than 30 air exchanges per hour during periods of decontamination. When the doors are open, the supply-air volume shall maintain not less than 30 psi positive pressure from the entrance of the new zone. Manometers shall be installed adjacent to doors between zones to indicate room pressure on each side of the door. Makeup air and exhaust shall communicate directly to the outdoors and serve no other areas of the building.

> **Exception:** During occupied periods other than decontamination, outdoor air ventilation quantities may be in accordance with IMC Table 403.3 and recirculation is permitted where a rapid change from recirculation to fresh air flow is provided.

425.7.2 Exhaust and Supply Air Units. Both exhaust and supply air units shall be located on the roof and be equipped with special filtering capable of capturing airborne contaminants particles down to 0.3 pm (micrometers) in size. Exhaust termination outlets shall be a minimum of 20 feet from openings or air intakes to buildings.

425.7.3 Air Ducts. Air ducts serving a decontamination room shall not be located within the room and shall not pass through a rated wall or ceiling. Ducts shall pass a leakage pressure test prior to being concealed. Ducts shall be round noncorrosive material within the first 12 feet of the room. Horizontal duct within the first 12 feet shall be sloped a minimum of 1 percent toward the decontamination room register connection.

425.7.4 Grilles and Registers. Grilles and registers installed in a decontamination room shall be made of extruded aluminum material. They shall be surface mounted and have a hinged face for inspection and cleaning. The supply and exhaust air terminals shall be located in walls with the supply located 12 inches below the ceiling and the exhaust located 12 inches above the floor.

425.7.5 Air Balance. The ventilation air distribution system shall be provided with means to adjust the system to achieve the minimum ventilation airflow rate and the pressure differential between zones as required by Sections 425.4 and 425.7.1. A certified third party air balance test is required to verify that the ventilation system is capable of supplying and exhausting the airflow rates required. Air balance shall be completed using an approved method and test certification provided prior to final inspection.

425.8 Plumbing. Plumbing design, piping, fixtures and equipment serving a decontamination room shall comply with this section.

425.8.1 Water Piping. Water piping shall not be exposed in the decontamination room and shall be approved non-corrosive material listed for use within a building. Potable water shall be provided to the room and an approved backflow preventer installed at the supply connection outside of the room.

425.8.2 Shower. The hot zone shall be provided with a minimum of 8 showers, 4 female and 4 male. One male and one female shower shall be large enough to serve a non-ambulatory patient on a gurney. Showers heads shall be the hand held type and the control valve shall be supplied with only one water source with a preset water temperature of 104º F. Each shower shall have its floor sloped 1 percent to an approved 2 inch drain to prevent flow of water to adjacent bathers.

425.8.3 Room Floor Drains. Decontamination rooms shall be provided with 4 inch floor drains connected to the waste system. Floor drains shall be designed to provide rapid wash down of all

surfaces within the room. Floors shall be sloped a minimum of 1 percent to floor drains. Floor and shower drains shall be equipped with automatic trap primers.

425.8.4 Water Wand. Water wands or hose reels shall be located within the decontamination room to provide wash down of all room surfaces.

425.8.5 Waste and Vents. Vents serving decontamination room plumbing traps shall extend through the roof separately or be connected to other vents serving the decontamination room. Vent shall terminate not less than 20 feet from openings or air intakes to buildings. Waste piping serving a decontamination room shall not connect to other waste systems but shall connect directly to the building sewer.

Exception:

1. Where it is not practicable to connect the waste piping directly to the building sewer, connection to an existing building drain pipe is permitted. The connection to an existing horizontal waste pipe shall be located not less than 10 feet from other waste connections.
2. Where no gravity waste piping exists, a properly sized sump is permitted. The sump shall be provided with dual ejector pumps arranged to function alternately during normal use and independently in case of overload or mechanical failure. The pumps shall have an audio and visual alarm, readily accessible, that signals pump failure or an overload condition. The discharge piping from the pumps shall terminate at a direct connection to the sewer. Piping material shall be pressure rated and be double contained with leak detection. All piping shall be pressure tested before final inspection. Pumps shall be connected to the standby power as noted in Section 425.6.4.

425.9 Overflow Facilities. A hospital shall be permitted have a portable decontamination unit or tent to process patients during catastrophic disasters. An exterior tempered water connection, sanitary sewer connection and a standby power connection shall be provided to serve the unit near the ambulance staging area.

Add new definitions to Chapter 2 as follows:

DECONTAMINATION ROOM. A separate area of a hospital divided into not less than three isolated zones (hot, warm and cold) for the purpose of rendering contaminated patients, first responders and hospital staff non-contaminated.

COLD ZONE. An area protected from contaminates and contaminated patients used as the final testing and staging area for patients and hospital staff entering the hospital.

HOT ZONE. An area where individuals are evaluated for possible contamination and where decontamination is performed. This zone is the staging area prior to passing into the “warm zone”.

TRIAGE AREA. An admitting room that is entered from outside the hospital and also precedes the decontamination room with no access to other areas of the hospital.

WARM ZONE. A transition area from the hot to cold zone where people are retested for contaminants and determined to be “safe” for transition into the cold zone or “contaminated” and sent back to the hot zone for further decontamination.

Reason: Create a new code section for the minimum design requirements of a decontamination room for the protection of healthcare workers as well as patients and visitors to a hospital. A risk of exposure to chemical, biological, or radiological material exists when a hospital receives contaminated patients, particularly during a mass casualty incident. During “mass casualty hazardous materials incidents”, patients that are exposed/contaminated to hazardous materials agent will likely bypass fire department decontamination efforts and self-refer to a hospital emergency room(ER). Hospitals now realize they need a dedicated room for decontamination because a portable decontamination tent may not be adequate.

During a recent code plan review of a hospital decontamination room, I noticed the designer left out basic items that would jeopardize the continued operation and effectiveness of the decontamination room. I would make recommendations to him base on my 23 years of experience in hospital inspections but without an IBC code section to back me up, I had no other option but to approve his plan. Hospitals are adding decontamination rooms because they realize the threat of having their ER exposed. A

search of JACHO, OSHA, AIA and Facilities Guidelines institute, Guideline for Healthcare Facilities resulted in no design standards for decontamination rooms.

The Joint Commission (TJC) and OSHA/Dept. of Commerce regulations require hospital Emergency Departments to prepare for hazardous materials incidents including patient decontamination. American Institute of Architects (AIA) guidelines 7.9.D.25 indicates that a decontamination area shall be provided but as of the submittal date of this new code section, minimum designs for decontamination rooms have not transpired.

Bibliography: D.C. medical center unveils mass casualty design template – Steven K. Wagner March 2008 of HFM magazine; Management of hazmat incidents in hospitals – Dr. Jimmy Chan Business Briefing; Hospital Engineering & Facilities Management 2005; An engineer's mathematical approach to designing an emergency room decontamination area for weapons of mass destruction casualties – Eldo E. Frezza, Erica Fletcher, Veronica Flores, Ellen Popolo, Fay Tal Placido 2007 Journal of Social Sciences; Recommendations for hospital based hazardous materials decontamination capabilities in the northwest Ohio region – by Gregory Locher for Northwest Ohio Regional Health Care Disaster Preparedness; Decon design by Craig Kampmier; Human decontamination – Wikipedia; Millard Fillmore Suburban Hospital new decontamination room; 5.1.3.7(5) Decontamination Area – Washington State amendments for hospital licensing regulations.

Cost Impact: The code change proposal will increase the cost of construction for existing small hospitals but the cost increase will be insignificant for new construction of a hospital.

G97-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

G128 – 12
Table 508.4

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

Revise as follows:

TABLE 508.4
REQUIRED SEPARATION OF OCCUPANCIES (HOURS)

OCCUPANCY	A, E		I-1[a], I-3, I-4		I-2		R[a]		F-2, S-2[b], U		B[e], F-1, M, S-1		H-1		H-2		H-3, H-4		H-5	
	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS	S	NS
B[e], F-1, M, S-1	—	—	—	—	—	—	—	—	—	—	N	N	NP	NP	2	3	1	2	1	NP

(Portions of table not shown remain unchanged)

S = Buildings equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
NS = Buildings not equipped throughout with an automatic sprinkler system installed in accordance with Section 903.3.1.1.
N = No separation requirement.
NP = Not permitted.
a. See Section 420.
b. The required separation from areas used only for private or pleasure vehicles shall be reduced by 1 hour but to not less than 1 hour.
c. See Section 406.3.4.
d. Separation is not required between occupancies of the same classification.
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, 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.

Cost Impact: None

G128-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

T508.4-G-WILLIAMS-ADHOC

G200 – 12
3304.8 (NEW), 3311.3 (NEW)

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

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, 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 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 and 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.

Cost Impact: This proposal will not increase the cost construction. This change is consistent with existing federal certification requirements.

G200-12

Public Hearing: Committee:	AS	AM	D	
Assembly:	ASF	AMF	DF	

G244 – 12
3412 (IEBC [B] Chapter 14)

Proponent: David S. Collins, The Preview Group, Inc., representing the American Institute of Architects (dcollins@preview-group.com); Michael A. Crowley, P.E., FSFPE, RJA Group (mcrowley@rjagroup.com)

Revise as follows:

3412.2 (IFC [B] 1401.2) Applicability. Structures existing prior to [DATE TO BE INSERTED BY THE JURISDICTION. NOTE: IT IS RECOMMENDED THAT THIS DATE COINCIDE WITH THE EFFECTIVE DATE OF BUILDING CODES WITHIN THE JURISDICTION], in which there is work involving *additions*, *alterations* or changes of occupancy shall be made to comply with the requirements of this section or the provisions of Sections 3403 through 3409. The provisions in Sections 3412.2.1 through 3412.2.5 shall apply to existing occupancies that will continue to be, or are proposed to be, in Groups A, B, E, F, I-2, M, R, S and U. These provisions shall not apply to buildings with occupancies in Group H or ~~I.~~ I-1, I-3 or I-4.

3412.6 (IFC [B] 1401.6) Evaluation process. The evaluation process specified herein shall be followed in its entirety to evaluate existing buildings in Groups A, B, E, F, M, R, S and U. For existing buildings in Group I-2, the evaluation process specified herein shall be followed and applied to each and every individual smoke compartment. Table 3412.7 shall be utilized for tabulating the results of the evaluation. References to other sections of this code indicate that compliance with those sections is required in order to gain credit in the evaluation herein outlined. In applying this section to a building with mixed occupancies, where the separation between the mixed occupancies does not qualify for any category indicated in Section 3412.6.16, the score for each occupancy shall be determined and the lower score determined for each section of the evaluation process shall apply to the entire building, or to each smoke compartment for Group I-2 occupancies.

Where the separation between mixed occupancies qualifies for any category indicated in Section 3412.6.16, the score for each occupancy shall apply to each portion, or smoke compartment of the building based on the occupancy of the space.

3412.6.2 (IFC [B] 1401.6.2) Building area. The value for building area shall be determined by the formula in Section 3412.6.2.2. Section 503 and the formula in Section 3412.6.2.1 shall be used to determine the allowable area of the building. This shall include any allowable increases due to frontage and automatic sprinklers as provided for in Section 506. Subtract the actual *building area* in square feet from the allowable area and divide by 1,200 square feet. Enter the area value and its sign (positive or negative) in Table 3412.7 under Safety Parameter 3412.6.2, Building Area, for fire safety, means of egress and general safety. In determining the area value, the maximum permitted positive value for area is 50 percent of the fire safety score as *listed* in Table 3412.8, Mandatory Safety Scores. Group I-2 occupancies shall be scored zero.

3412.6.4 (IFC [B] 1401.6.4) Tenant and dwelling unit separations. Evaluate the *fire-resistance rating* of floors and walls separating tenants, including *dwelling units*, and not evaluated under Sections 3412.6.3 and 3412.6.5. Group I-2 occupancies shall evaluate the rating of the separations between patient sleeping rooms.

Under the categories and occupancies in Table 3412.6.4, determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.4, Tenant and Dwelling Unit Separations, for fire safety, means of egress and general safety.

TABLE 3412.6.4 (IFC [B] TABLE 1401.6.4)
SEPARATION VALUES

OCCUPANCY	CATEGORIES				
	a	b	c	d	e
A-1	0	0	0	0	1
I-2	0	1	2	3	4

(Portions of table not shown remain unchanged)

3412.6.5 (IFC [B] 1401.6.5) Corridor walls. Evaluate the *fire-resistance rating* and degree of completeness of walls which create *corridors* serving the floor, and constructed in accordance with Section 1018. This evaluation shall not include the wall elements considered under Sections 3412.6.3 and 3412.6.4. Under the categories and groups in Table 3412.6.5, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.5, Corridor Walls, for fire safety, means of egress and general safety.

TABLE 3412.6.5 (IFC [B] TABLE 1401.6.5)
CORRIDOR WALL VALUES

OCCUPANCY	CATEGORIES			
	a	b	c[a]	d[a]
A-1	-10	-4	0	2
I-2	-10	0	1	2

(Portions of table not shown remain unchanged)

3412.6.7 (IFC [B] 1401.6.7) HVAC systems. Evaluate the ability of the HVAC system to resist the movement of smoke and fire beyond the point of origin. Under the categories in Section 3412.6.7.1, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.7, HVAC Systems, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Categories a, b or c shall be considered to fail the evaluation.

3412.6.8 (IFC [B] 1401.6.8) Automatic fire detection. Evaluate the smoke detection capability based on the location and operation of *automatic fire detectors* in accordance with Section 907 and the *International Mechanical Code*. Under the categories and occupancies in Table 3412.6.8, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.8, Automatic Fire Detection, for fire safety, means of egress and general safety. Facilities in Group I-2 occupancies meeting Categories a, b or c shall be considered to fail the evaluation.

TABLE 3412.6.8 (IFC [B] TABLE 1401.6.8)
AUTOMATIC FIRE DETECTION VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-10	-5	0	2	6	-
A-2	-25	-5	0	5	9	-
A-4,B,E,S-2	-4	-2	0	4	8	-
I-2	NP	NP	0	4	5	2

3412.6.8.1 (IFC [B] 1401.6.8.1) Categories. The categories for automatic fire detection are:

1. Category a—None.
2. Category b—Existing *smoke detectors* in HVAC systems and maintained in accordance with the *International Fire Code*.
3. Category c—*Smoke detectors* in HVAC systems. The detectors are installed in accordance with the requirements for new buildings in the *International Mechanical Code*.
4. Category d—*Smoke detectors* throughout all floor areas other than individual *sleeping units*, tenant spaces and *dwelling units*.
5. Category e—*Smoke detectors* installed throughout the floor area.

6. Category f – Smoke detectors in corridors only.

3412.6.9 (IFC [B] 1401.6.9) Fire alarm systems. Evaluate the capability of the *fire alarm system* in accordance with Section 907. Under the categories and occupancies in Table 3412.6.9, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.9, Fire Alarm Systems, for fire safety, means of egress and general safety.

TABLE 3412.6.9 (IFC [B] TABLE 1401.6.9)
FIRE ALARM SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a	b[a]	c	d
A-1, A-2, A-3, A-4, B, E, R	-10	-5	0	5
F, M, S	0	5	10	15
I-2	-4	1	2	5

a. For buildings equipped throughout with an automatic sprinkler system, add 2 points for activation by a sprinkler water flow device.

3412.6.10 (IFC [B] 1401.6.10) Smoke control. Evaluate the ability of a natural or mechanical venting, exhaust or pressurization system to control the movement of smoke from a fire. Under the categories and occupancies in Table 3412.6.10, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.10, Smoke Control, for means of egress and general safety.

TABLE 3412.6.10 (IFC [B] TABLE 1401.6.10)
SMOKE CONTROL VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-2, A-3	0	1	2	3	6	6
A-4, E	0	0	0	1	3	5
B, M, R	0	2(a)	3(a)	3(a)	3(a)	4(a)
F, S	0	2(a)	2(a)	3(a)	3(a)	3(a)
I-2	-4	0	0	0	3	0

a. This value shall be 0 if compliance with Category d or e in Section 3412.6.8.1 has not been obtained.

3412.6.11 (IFC [B] 1401.6.11) Means of egress capacity and number. Evaluate the *means of egress* capacity and the number of exits available to the building occupants. In applying this section, the *means of egress* are required to conform to the following sections of this code: 1003.7, 1004, 1005, 1014.2, 1014.3, 1015.2, 1021, 1024.1, 1027.2, 1027.5, 1028.2, 1028.3, 1028.4 and 1029. The number of exits credited is the number that is available to each occupant of the area being evaluated. Existing fire escapes shall be accepted as a component in the *means of egress* when conforming to Section 3406.

Under the categories and occupancies in Table 3412.6.11, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.11, Means of Egress Capacity, for means of egress and general safety.

TABLE 3412.6.11 (IFC [B] TABLE 1401.6.11)
MEANS OF EGRESS VALUES

OCCUPANCY	CATEGORIES				
	a[a]	b	c	d	e
A-1, A-2, A-3, A-4, E	-10	0	2	8	10
M	-3	0	1	2	4
B, F, S	-1	0	0	0	0
R	-3	0	0	0	0
I-2	-10	0	2	8	10

a. The values indicated are for buildings six stories or less in height. For buildings over six stories above grade plane, add an additional -10 points.

3412.6.12 (IFC [B] 1401.6.12) Dead ends. In spaces required to be served by more than one *means of egress*, evaluate the length of the *exit* access travel path in which the building occupants are confined to a single path of travel. Under the categories and occupancies in Table 3412.6.12, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.12, Dead Ends, for means of egress and general safety.

TABLE 3412.6.12 (IFC [B] TABLE 1401.6.12)
DEAD-END VALUES

OCCUPANCY	CATEGORIES			
	a	**b**	**c**	**d**
A-1, A-3, A-4, B, E, F, M, R, S	-2	0	2	-
A-2, E	-2	0	2	-
I-2	-2	0	2	-6

a. For dead-end distances between categories, the dead-end value shall be obtained by linear interpolation.

3412.6.12.1 (IFC [B] 1401.6.12.1) Categories. The categories for dead ends are:

1. Category a—Dead end of 35 feet (10 670 mm) in nonsprinklered buildings or 70 feet (21 340 mm) in sprinklered buildings.
2. Category b—Dead end of 20 feet (6096 mm); or 50 feet (15 240 mm) in Group B in accordance with Section 1018.4, exception 2.
3. Category c—No dead ends; or ratio of length to width (l/w) is less than 2.5:1.
4. Category d – Dead ends exceeding Category a.

3412.6.16 (IFC [B] 1401.6.16) Mixed occupancies. Where a building has two or more occupancies that are not in the same occupancy classification, the separation between the mixed occupancies shall be evaluated in accordance with this section. Where there is no separation between the mixed occupancies or the separation between mixed occupancies does not qualify for any of the categories indicated in Section 3412.6.16.1, the building shall be evaluated as indicated in Section 3412.6 and the value for mixed occupancies shall be zero. Under the categories and occupancies in Table 3412.6.16, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.16, Mixed Occupancies, for fire safety and general safety. For buildings without mixed occupancies, the value shall be zero.

3412.6.16.1 (IFC [B] 1401.6.16.1) Categories. The categories for mixed occupancies are:

1. Category a—Occupancies separated by minimum 1-hour *fire barriers* or minimum 1-hour *horizontal assemblies*, or both.
2. Category b—Separations between occupancies in accordance with Section 508.4.
3. Category c—Separations between occupancies having a *fire-resistance rating* of not less than twice that required by Section 508.4.4.

TABLE 3412.6.16 (IFC [B] TABLE 1401.6.16)
MIXED OCCUPANCY VALUES[a]

OCCUPANCY	CATEGORIES		
	a	**b**	**c**
A-1, A-2, R	-10	0	10
A-3, A-4, B, E, F, M, S	-5	0	5
I-2	NP	0	5

a. For fire-resistance ratings between categories, the value shall be obtained by linear interpolation.

3412.6.17 (IFC [B] 1401.6.17) Automatic sprinklers. Evaluate the ability to suppress a fire based on the installation of an *automatic sprinkler system* in accordance with Section 903.3.1.1. “Required sprinklers” shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.17, determine the appropriate value and enter that value into Table 3412.7 under Safety

Parameter 3412.6.17, Automatic Sprinklers, for fire safety, means of egress divided by 2 and general safety.

TABLE 3412.6.17 (IFC [B] TABLE 1401.6.17)
SPRINKLER SYSTEM VALUES

OCCUPANCY	CATEGORIES					
	a	b	c	d	e	f
A-1, A-3, F, M, R, S-1	-6	-3	0	2	4	6
A-2	-4	-2	0	1	2	4
A-4, B, E, S-2	-12	-6	0	3	6	12
I-2	NP	NP	NP	8	10	NA

NP not permitted
NA not applicable

3412.6.18 (IFC [B] 1401.6.18) Standpipes. Evaluate the ability to initiate attack on a fire by making a supply of water available readily through the installation of standpipes in accordance with Section 905. Required standpipes shall be based on the requirements of this code. Under the categories and occupancies in Table 3412.6.18, determine the appropriate value and enter that value into Table 3412.7 under Safety Parameter 3412.6.18, Standpipes, for fire safety, means of egress and general safety.

TABLE 3412.6.18 (IFC [B] TABLE 1401.6.18)
STANDPIPE SYSTEM VALUES

OCCUPANCY	CATEGORIES			
	a[a]	b	c	d
A-1, A-3, F, M, R, S-1	-6	0	4	6
A-2	-4	0	2	4
A-4, B, E, S-2	-12	0	6	12
I-2	-2	0	1	2

a. This option cannot be taken if Category a or b in Section 3412.6.17 is used.

3412.6.20 (IFC [B] 1401.6.20) Smoke Compartmentation. Evaluate the smoke compartments for compliance with Section 417.5. Using Table 3412.6.20, determine the appropriate smoke compartmentation value (*SCV*) and enter that value into Table 3412.7 under Safety Parameter 3412.6.20, Smoke Compartmentation, for fire safety, means of egress and general safety.

TABLE 3412.6.20 (IFC [B] TABLE 1401.6.20)
SMOKE COMPARTMENTATION VALUES

OCCUPANCY	CATEGORIES[a]		
	a Compartment size equal to or less than 22,500 square feet	b Compartment size greater than 22,500 square feet	c No smoke Compartment
A, B, E, F, M, R and S	0	0	0
I-2	0	NP	NP

For SI: 1 square foot = 0.093 m^2.
a. For areas between categories, the smoke compartmentation value shall be obtained by linear interpolation.

3412.6.21 (IFC [B] 1401.6.21) Patient ability, concentration, smoke compartment location and ratio to attendant. In I-2 occupancies, the ability of patients, their concentration and ratio to attendants shall be evaluated and applied per this section. Evaluate each smoke compartment using the categories in Sections 3412.6.21.1, 3412.6.21.2 and 3412.6.21.3 and enter the value in Table 3412.8. To determine the safety factor, multiply the three values together, if the sum is 9 or greater, compliance has failed.

3412.6.21.1 (IFC [B] 1401.6.21.1) Patient ability for self-preservation. Evaluate the ability of the patients for self-preservation in each smoke compartment in an emergency. Under the categories and occupancies in Table 3412.6.21.1 determine the appropriate value and enter that value in Table 3412.7

under Safety Parameter 3412.6.21.1, Patient Ability for Self-Preservation, for means of egress and general safety.

3412.6.21.1.1 (IFC [B] 1401.6.21.1.1) Categories: The categories for patient ability for self-preservation are:

1. Category a – (mobile) Patients are capable of self preservation without assistance.
3. Category c – (not mobile) Patients rely on assistance for evacuation or relocation.
4. Category d – (not movable) Patients cannot be evacuated or relocated

TABLE 3412.6.21.1 (IFC [B] TABLE 1401.6.21.1)
PATIENT ABILITY VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

3412.6.21.2 (IFC [B] 1401.6.21.2) Patient Concentration. Evaluate the concentration of patients in each smoke compartment under Section 3412.6.21.2. Under the categories and occupancies in Table 3412.6.21.2 determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.21.2, Patient Concentration, for means of egress and general safety.

3412.6.21.2.1 (IFC [B] 1401.6.21.2.1) Categories: The categories for patient concentration are:

1. Category a – smoke compartment has 1 to 10 patients.
2. Category b – smoke compartment has more than 10 to 40 patients
3. Category d – smoke compartment has greater than 40 patients

TABLE 3412.6.21.2 (IFC [B] TABLE 1401.6.21.2)
PATIENT CONCENTRATION VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

3412.6.21.3 (IFC [B] 1401.6.21.3) Attendant-to-Patient Ratio. Evaluate the attendant-to-patient ratio for each compartment under Section 3412.6.21.3. Under the categories and occupancies in Table 3412.6.21.3 determine the appropriate value and enter that value in Table 3412.7 under Safety Parameter 3412.6.21.3, Attendant-to-Patient Ratio, for means of egress and general safety.

3412.6.21.3.1 (IFC [B] 1401.6.21.3.1) Categories: The categories for attendant-to-patient concentrations are:

1. Category a – attendant-to-patient concentrations is 1:5.
3. Category b – attendant-to-patient concentrations is 1:6 to 1:10.
4. Category c – attendant-to-patient concentrations is greater than 1:10 or no patients

TABLE 3412.6.21.3 (IFC [B] 1401.6.21.3)
ATTENDANT-TO-PATIENT RATIO VALUES

OCCUPANCY	CATEGORIES		
	a	b	c
I-2	1	2	3

TABLE 3412.7 (IFC [B] 1401.7)
SUMMARY SHEET – BUILDING CODE

Existing occupancy		_____
Proposed occupancy		_____
Year building was constructed		_____
Number of stories		_____
Height in feet		_____
Type of construction		_____
Area per floor		_____
Percentage of open perimeter increase		_____%
Completely suppressed:		Yes_____ No _____
Type		_____
Corridor wall rating		_____
Compartmentation:		Yes_____ No _____
Required door closers:		Yes_____ No _____
Fire-resistance rating of vertical opening enclosures		_____
Type of HVAC system:		_____
Serving number of floors		_____
Automatic fire detection:		Yes_____ No _____
Type and location		_____
Fire alarm system:		Yes_____ No _____
Type		_____
Smoke control:		Yes_____ No _____
Type		_____
Adequate exit routes:		Yes_____ No _____
Dead ends:		Yes_____ No _____
Maximum exit access travel distance		_____
Elevator controls:		Yes_____ No _____
Means of egress emergency lighting:		Yes_____ No _____
Mixed occupancies:		Yes_____ No _____
Standpipes:		Yes_____No_____
Incidental Use:		Yes_____No_____
Smoke Compartmentation less than 22,500		Yes_____No_____
Patient Ability for Self-preservation:		_____
Patient Concentration:		_____
Attendant-to-Patient Ratio:		_____

3412.8 (IFC [B] 1401.8) Safety scores. The values in Table 3412.8 are the required mandatory safety scores for the evaluation process listed in Section 3412.6.

TABLE 3412.8 (IFC [B] 1401.8)
MANDATORY SAFETY SCORES[a]

OCCUPANCY	FIRE SAFETY (MFS)	MEANS OF EGRESS (MME)	GENERAL SAFETY (MGS)
I-2	19	34	34

a.
MFS = Mandatory Fire Safety;
MME = Mandatory Means of Egress;
MGS = Mandatory General Safety.

(Portions of table not shown remain unchanged)

Reason: When initially developed, Chapter 34 did not include provisions for I-2 or H occupancies. The rationale was that the life safety system developed by NFPA was adequate for those I-2 occupancies and H occupancies were not likely to be a part of a building renovation, nor were the drafters of the original code change comfortable with development of values for an H occupancy.

Recently, ICC and ASHE have begun working together to develop changes to the IBC to remove some of the conflicts that exist between the I-Codes and the licensing and funding standards used for hospitals. Part of that effort included discussion of the process for evaluation of an existing I-2. A small group of volunteers has developed this code change to incorporate I-2 into Chapter 34's compliance alternatives.

The ongoing issue is how to identify the appropriate levels of performance and how to integrate the criteria in in Chapter 34. The following is an approach identified by the volunteers demonstrating how this can best be achieved. The original Chapter 34 used "risk factors" as an element of the analysis. Chapter 34 was developed using risk factors that formed the basis for development of the BOCA building code and the criteria in NYC Local Law 5 for high-rise business occupancies. Other occupancies were extrapolated using those numbers.

When the IBC was developed a "zero based" revision was undertaken to establish compliance as a zero in all categories of compliance in Chapter 34's compliance alternatives. Values have been inserted into the categories where Chapter 34 is silent. Additional text has been developed to describe how these categories will be satisfied and some categories have been added to address specific elements of an existing I-2 occupancy which should play a role in achieving compliance.

Because the building is an existing I-2, elements that would not be known in a new building such as the ability of the patients or the number of persons providing care are documented as part of the ongoing licensing for these facilities. (WHAT DO WE DO ABOUT CHANGE OF OCCUPANCY?)

Evaluations were performed on several existing buildings to determine the appropriateness of the scoring. Areas of evaluation which would be untenable for typical patients and other persons in an I-2 occupancy were found and successful changes to upgrade the facility were identified, although not all would pass.

Cost Impact: The increased utility of Chapter 34 to address an I-2 occupancy will significantly reduce the cost of design and review.

G244-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

M10–12
303.3

Proponent: Shawn Strausbaugh, Chair, Plumbing/Mechanical/Gas Code Action Committee

Revise as follows:

303.3 Prohibited locations. Fuel-fired appliances shall not be located in, or obtain combustion air from, any of the following rooms or spaces:

1. Sleeping Rooms
2. Bathrooms
3. Toilet Rooms
4. Storage Closets
5. Surgical Rooms

Exception: This section shall not apply to the following appliances:

1. Direct-vent appliances that obtain all combustion air from the outdoors.
2. Solid fuel-fired appliances, provided that ~~the room is not a confined space and the building is not of unusually tight construction~~ combustion air is provided in accordance with the manufacturers' instructions.
3. Appliances installed in a dedicated enclosure in which all combustion air is taken directly from the outdoors, in accordance with Chapter 7. Access to such enclosure shall be through a solid door, weather-stripped in accordance with the exterior door leakage requirements of the International Conservation Code and equipped with an approved self-closing device.

Reason: The concepts of confined space and unusually tight construction are no longer valid and were deleted from the IFGC along with the definitions of such.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

Cost Impact: None

M10-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

M35–12
[B] 309.2 (NEW)

Proponent: Shawn Strausbaugh, Chair, Plumbing/Mechanical/Gas Code Action Committee

THIS CODE CHANGE PROPOSAL WILL BE HEARD BY THE IBC-GENERAL COMMITTEE. SEE THE TENTATIVE HEARING ORDER FOR THIS COMMITTEE.

Add new text as follows:

[**B] 309.2 Space-cooling systems.** Where the Dry bulb 2 ½ % Summer Design Temperature as determined in accordance with Appendix D of the *International Plumbing Code* is 92° F or greater, occupancies in groups E, I1, I2, I4 and R shall be provided with active or passive space-cooling systems capable of maintaining an indoor temperature of 75° F on the design day. Wall mounted and window mounted cooling units used to comply with this section shall not obstruct any required emergency escape and rescue openings.

Reason: Section 309 addresses the requirements for space heating in interior spaces and requires that the system be able to maintain a temperature of at least 68 degrees. This is considered to be necessary to make the space occupiable. However, the code does not have any cooling requirements for hospitals, operating rooms, health care facilities, nursing homes, etc. In warm humid climates, space cooling can become a life safety issue for some members of society. This is not about luxury; rather, it can be the difference between life and death.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC). The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

Cost Impact: This proposal will increase the cost of construction.

M35-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P28 – 12
Table 403.1 (IBC Table [P]2902.1)

Proponent: Shawn Strausbaugh representing the ICC PMG Code Action Committee

Revise as follows:

TABLE 403.1
MINIMUM NUMBER OF REQUIRED PLUMBING FIXTURES[a]
(See Sections 403.2 and 403.3)

NO.	CLASSIFICATION	OCCUPANCY	DESCRIPTION	WATER CLOSETS (URINALS SEE SECTION 419.2)		LAVATORIES		BATHTUBS/ SHOWERS	DRINKING FOUNTAIN[e, f] (SEE SECTION 410.1)	OTHER
				MALE	FEMALE	MALE	FEMALE			
2	Business	B	Buildings for the transaction of business, professional services, other services involving merchandise, office buildings, banks, light industrial and similar uses.[i]	1 per 25 for the first 50 and 1 per 50 for the remainder exceeding 50		1 per 40 for the first 80 and 1 per 80 for the remainder exceeding 80		—	1 per 100	1 service sink[g]

i. Exam and procedure rooms in doctor, dentist and veterinarian offices shall be provided with a hand washing sink.

(Portions of table and footnotes not shown remain unchanged)

Reason: The code is silent about requiring hand washing sinks in doctor, dentist and veterinarian exam and procedures rooms. Sanitation is vitally important to prevent the spread of disease causing organisms. Hand washing is critical in preventing this spreading. The code needs to require hand washing sinks in these areas to allow for proper sanitation.

This proposal is submitted by the ICC Plumbing, Mechanical and Fuel Gas Code Action Committee (PMGCAC) The PMGCAC was established by the ICC Board of Directors to pursue opportunities to improve and enhance an assigned International Code or portion thereof. This includes both the technical aspects of the codes as well as the code content in terms of scope and application of referenced standards. Since its inception in July, 2011, the PMGCAC has held 2 open meetings, multiple conference calls and multiple workgroup calls which included members of the PMGCAC. Interested parties also participated in all of the meetings and conference calls to discuss and debate the proposed changes.

Cost Impact: None

P28-12

Public Hearing:				
	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

T403.1-P-STRAUSBAUGH.PMGCAC

P69 – 12
422.11(New)

Proponent: Daniel D. Fish, Roda LLC, representing self (info@drainbrain.us)

Add new text as follows:

422.11 Wastewater leak containment, detection and notification. An early-warning wastewater leak containment, detection and notification device shall be required in hospitals and other healthcare occupancies. The device shall contain and detect wastewater leakage from water closets, showers and bathtubs. The device shall be equipped with an auditory alarm, visual signal, and a means for notification to the building occupants, property owners or the property management staff. The auditory alarm shall have a sound pressure level rating of not less than 85 dB when measured at a distance of ten feet.

Reason: Millions of wastewater leaks occur every year in multi-story buildings from leaking drains, waste lines, and toilets. Toilets are especially high risks for water leakage. Research has shown that 30 percent of all toilets in the United States leak. Toilets with unreliable wax gaskets and flanges – a common problem – cause the most damage to the unit below. Also, the float valve that controls water entering the toilet tank often malfunction, which allows water to run into toilet waste line continuously.

Wastewater leaks typically go undetected until considerable damage has been done. These leaks: (1) waste millions of gallons of water, (2) damage property/materials, generating millions of tons of debris that swells landfills, and (3) develop mold on building components, creating property damage and a health hazard. Property owners spend millions of dollars to repair the damage from wastewater leaks and cure mold-related problems

. An early-warning wastewater leak containment, detection, and notification device will give building occupants and facility managers/owners the opportunity to avoid wastewater leak damage and its attendant costs. Taking action early will conserve millions of gallons of water and eliminate the environmental, economic, and health hazards from wastewater leaks. This solution for the age-old wastewater leak problem will meet the intent of this code by safeguarding the public health, safety, and welfare.

Cost Impact: The code change proposal will not increase the cost of construction.

P69-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

P171 – 12
713.12 (New)

Proponent: Daniel D. Fish, Roda LLC, representing self (info@drainbrain.us)

Add new text as follows:

713.12 Wastewater leak containment, detection and notification. An early-warning wastewater leak containment, detection and notification device shall be required in hospitals and other healthcare occupancies stated in section 713.1. This device shall contain and detect a wastewater leak in the building's water closets, showers and bathtubs. This device shall be equipped with an auditory alarm, visual signal, and a means for notification to the affected building occupants, property owners or the property management staff. The auditory alarm shall have a sound pressure level rating of not less than 85 dB when measured at a distance of ten feet.

Reason: Millions of wastewater leaks occur every year in multi-story buildings from leaking drains, waste lines, and toilets. Toilets are especially high risks for water leakage. Research has shown that 30 percent of all toilets in the United States leak. Toilets with unreliable wax gaskets and flanges – a common problem – cause the most damage to the unit below. Also, the float valve that controls water entering the toilet tank often malfunction, which allows water to run into toilet waste line continuously.

Wastewater leaks typically go undetected until considerable damage has been done. These leaks: (1) waste millions of gallons of water, (2) damage property/materials, generating millions of tons of debris that swells landfills, and (3) develop mold on building components, creating property damage and a health hazard. Property owners spend millions of dollars to repair the damage from wastewater leaks and cure mold-related problems.

An early-warning wastewater leak containment, detection, and notification device will give building occupants and facility managers/owners the opportunity to avoid wastewater leak damage and its attendant costs. Taking action early will conserve millions of gallons of water and eliminate the environmental, economic, and health hazards from wastewater leaks. This solution for the age-old wastewater leak problem will meet the intent of this code by safeguarding the public health, safety, and welfare.

Cost Impact: The code change proposal will not increase the cost of construction.

P171-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF

S338–12
Appendix L (NEW)

Proponent: Stephen V. Skalko, P.E., Portland Cement Association; Eric T. Stafford, representing Institute for Business and Home Safety

Add new text as follows:

APPENDIX L
BUILDING RESILIENCE

The provisions in this appendix are not mandatory unless specifically referenced in the adopting ordinance.

SECTION L101
GENERAL

L101.1 Purpose. The purpose of this Appendix is to promote enhanced public health, safety and general welfare and to reduce public and private property losses due to hazards and natural disasters associated with fires, flooding, high winds and earthquakes.

SECTION L102
STRUCTURAL

L102.1 Ground snowloads. The ground snowloads to be used in determining the design snow loads for roofs shall be equal to 1.2 times the ground snowloads determined in accordance with ASCE 7 or Figure 1608.2 for the contiguous United States and Table 1608.2 for Alaska in the *International Building Code*. Site-specific case studies shall be made in areas designated "CS" in Figure 1608.2. Ground snow loads for sites at elevations above the limits indicated in Figure 1608.2 and for all sites within the CS areas shall be *approved*. Ground snow load determination for such sites shall be based on an extreme value statistical analysis of data available in the vicinity of the site using a value with a 2-percent annual probability of being exceeded (50-year mean recurrence interval). Snow loads are zero for Hawaii, except in mountainous regions as *approved* by the *building official*.

L102.2 Determination of wind loads. Wind loads on every building or structure shall be determined in accordance with Chapters 26 to 30 of ASCE 7 or provisions of the alternate all-heights method in Section 1609.6. The type of opening protection required, the ultimate design wind speed, V_{ult}, and the exposure category for a site is permitted to be determined in accordance with Section 1609 or ASCE 7. The design wind pressure, *p*, and design wind force, *F*, determined in accordance with ASCE 7 or 1609.6 shall be based on a design wind speed equal to the basic wind speed (or locally adopted basic wind speed in special wind zones, if higher) determined in accordance with Section 1609.3 as follows:

1. Ultimate design wind speed from Figure 1609A plus 20-mph.
2. Ultimate design wind speed from Figure 1609B plus 10 mph
3. Ultimate design wind speed from Figure 1609C.

Component and cladding loads shall be determined for the design wind speed defined assuming terrain Exposure C, regardless of the actual local exposure. Wind shall be assumed to come from any horizontal direction and wind pressures shall be assumed to act normal to the surface considered.

L102.3 Flood loads. Buildings designed and constructed in flood hazard areas defined in Section 1612.2 of the Code shall comply with Sections L102.3.1 and L102.3.2.

L102.3.1 Floors above base flood elevation. Floors required by ASCE 24 to be built above base flood elevations shall have the floor and their lowest horizontal supporting member not less than the higher of the following:

(a) Design flood elevation,
(b) Base flood elevation plus 3 feet, or
(c) advisory base flood elevation plus 3 feet, or
(d) 500-year flood, if known

L102.3.2 Flood protective works. Buildings designed and constructed in accordance with ASCE 24 shall not consider levees or floodwalls for providing flood protection during the design flood.

L102.4 Earthquake loads. In order to limit the impact of seismic events on the *building* the *building* shall comply with Section L102.4.1 and L102.4.2

L102.4.1 Seismic design importance factor. Where the ASCE 7 mapped 0.2 sec spectral response acceleration parameter, S_S, shown on Figures 1613.3.1(1), 1613.3.1(3), 1613.3.1(4) or 1613.3.1(6) is greater than or equal to 40%g, the importance factor, I, in Table 11.5-1 of ASCE 7 shall be:

1. Not less than 1.15 for Risk Category II buildings
2. Not less than 1.35 for Risk Category III buildings
3. Not less than 1.6 for Risk Category IV buildings

L102.4.2 Seismic Design Categories C, D, E and F. If the *seismic design category* is determined to be C, D, E or F in accordance with Section 1613.3.5 a site specific geotechnical report complying with the provisions of ASCE 7 Section 11.8 is required, and the building shall be designed by a *registered design professional*.

L102.5 Storm shelters. *Buildings* and structures shall be provided with storm shelters conforming to the requirements of Section 423 where required by Sections L102.5.1 through L102.5.2 of this code.

L102.5.1 Storm shelters required. Storm shelters shall be provided for occupants of buildings in accordance with Sections L102.5.1.1, L102.5.1.2 and L102.5.2.

Exceptions:

1. *Buildings* meeting the requirements for shelter design in ICC/NSSA 500.
2. Where storm shelters within 1/4-mile of the proposed *building* are available and have adequate size to accommodate the added occupant load of the proposed *building*.
3. Where the code official determines the *building* size, location or occupant load does not warrant shelters.

L102.5.1.1 Hurricane areas. In hurricane-prone regions as defined in Section 1609.2 the following buildings shall be provided with storm shelters:

1. Community halls, gymnasiums and libraries assigned to Group A3 occupancy classification.
2. Civic administration facilities assigned to Group B occupancy classification.
3. Buildings assigned to Group E, I-1, I-2, I-3, M or R occupancy classifications.
4. Buildings assigned to Risk Category I in accordance with Section 1604.5.

L102.5.1.2 Tornado areas. In areas where the shelter design wind speed for tornadoes of Figure 304.2.(1) of ICC/NSSA 500 is 160 mph or greater, tornado shelters shall be provided, except that such shelters shall not be required for buildings classified as Group U occupancies or classified as Risk Category I according to Table 1604.5.

L102.5.2 Combined hurricane and tornado shelters. Where combined hurricane and tornado shelters are provided the shelter shall comply with the more stringent requirements of ICC/NSSA-500 for both types of shelters.

L102.6 Wildland In order to limit the impact of wildland fires on the *building* the *building* shall comply with Sections L102.6.1 through L102.6.3

L102.6.1 Wildland Fires. The provisions of the *International Wildland-Urban Interface Code* shall apply to the construction, alteration, movement, repair, maintenance and use of any building, structure or premises within the wildland interface areas in this jurisdiction.

L102.6.2 Exterior walls. Exterior wall requirements shall be based on the Fire Hazard Severity specified in Table 502.1 in the *International Wildland-Urban Interface Code*.

L102.6.3 Smoke Detection. An automatic smoke detection system shall be installed throughout buildings located within areas designated by the jurisdiction as being a wild land urban interface area.

L103 Reference Standards

ASCE

ASCE 7 Minimum Design Loads for Other Structures
ASCE 24 Flood Resistant Design and Construction

ICC

ICC International Wildland-Urban Interface Code (IWUIC)

Reason: This reason statement has the following two segments to explain the reasons for this change: (A) The code change is explained with specific substantiation; and (B) General background information identifying the need for enhanced property protection and functional resilience for to strengthen the built environment;

(A)

The following are reports of dollar loss to property from wind, cold weather and fire disasters.

- The American Society of Civil Engineers reported in *Normalized Hurricane Damage in the United States*, *1900 – 2005,* National Hazard Review, ASCE 2008, that property damage from hurricanes was 81 billion dollars in 2005.
- The National Weather Service reports that U.S. property damage due to winter storms and ice exceeded 1.5 billion dollars in 2009.
- *Fire Losses in the United States During 2009* by the National Fire Protection Association, August 2010 shows that property loss due to structure fires in buildings other than one and two family dwellings was approximately 4.5 billion dollars.

Increasing the stringency of the design criteria of buildings for hazards such as wind, snow or fire results in more robust buildings. Such requirements reduce the amount of energy and resources required for repair, removal, disposal and replacement of building components and systems damaged from these disasters. A further benefit is a reduction in the amount of damaged building materials and content entering landfills.

Additional benefits are enhanced life safety, security and occupant comfort; potentially less demand on community resources required for emergency response; and allowing facilities to be more readily adapted for re-use if there is a change of occupancy in the future.

(B)

Minimum building requirements whether through energy codes, plumbing codes, mechanical codes, zoning codes, or basic building codes, do not encourage truly sustainable buildings. The proposal is one of several that attempt to integrate the concepts of the *Whole Building Design Guide* (WBDG) into the International Building Code as a non-mandatory Appendix. This allows adopting jurisdictions the option of incorporating code requirements into the building code to improve the resilience of the built environment without the need to add another code to the community requirements.

The WBDG, developed in partnership between the National Institute of Building Sciences (NIBS) and the Sustainable Building Industries Council (SBIC), has as its key concepts: accessible, aesthetics, cost-effective, functional/operational, historic preservation, productive, secure/safe, and sustainable.

There are numerous references about the economic, societal, and environmental benefits that result when enhanced functional resilience for resource minimization are integrated into building design and construction. Six examples demonstrating the importance and supporting the concepts are:

1. ***Natural Hazard Mitigation Saves: An Independent Study to Assess the Future Savings from Mitigation Activities***
National Institute of Building Sciences Multi-Hazard Mitigation Council - 2005

One of the findings in this report is "The analysis of the statistically representative sample of FEMA grants awarded during the study period indicates that a dollar spent on disaster mitigation saves society an average of $4." The programs studied often addressed issues and strategies other than enhanced disaster resistance of buildings and other structures. However, more disaster-resistant buildings enhance life safety; reduce costs and environmental impacts associated with repair, removal, disposal, and replacement; and reduce the time and resources required for community recovery.

2. Five Years Later – Are we better prepared?
Institute for Business and Home Safety - 2010

This IBHS report states: "When Hurricane Katrina made landfall on Aug. 29, 2005, it caused an estimated $41.1 billion in insured losses across six states, and took an incalculable economic and social toll on many communities. Five years later, the recovery continues and some residents in the most severely affected states of Alabama, Louisiana and Mississippi are still struggling. There is no question that no one wants a repeat performance of this devastating event that left at least 1,300 people dead. Yet, the steps taken to improve the quality of the building stock, whether through rebuilding or new construction, call into question the commitment of some key stakeholders to ensuring that past mistakes are not repeated." This report indicates that there is a need to implement provisions to make buildings more disaster-resistant. Clearly this suggests that functional resilience should at least be integrated into the design and construction of sustainable buildings.

3. National Weather Service Office of Climate, Water and Weather Services
National Oceanic and Atmospheric Administration (NOAA) - 2010

Data provided on the NOAA website [www.weather.gov/os/hazstats.shtml] indicates that the average annual direct property loss due to natural disasters in the United States exceeds of $35,000,000,000. This does not include indirect costs associated with loss of residences, business closures, and resources expended for emergency response and management. These direct property losses also do not reflect the direct environmental impact due to reconstruction after the disasters. Functional resilience will help alleviate the environmental impact and minimize both direct and indirect losses from natural disasters.

4. Global Climate Change Impacts in the United States

U.S. Global Change Research Program (USGCRP) - 2009
The USGCRP includes the departments of Agriculture, Commerce, Defense, Energy, Health and Human Services, Interior, State and Transportation; National Aeronautic and Space Administration; Environmental Protection Agency, USA International Development, National Science Foundation and Smithsonian Institution

The report identifies that: "Climate changes are underway in the United States and are projected to grow. Climate-related changes are already observed in the United States and its coastal waters. These include increases in heavy downpours, rising temperature and sea level, rapidly retreating glaciers, thawing permafrost, lengthening growing seasons, lengthening ice-free seasons in the ocean and on lakes and rivers, earlier snowmelt, and alterations in river flows. These changes are projected to grow." The report further identifies that the: "Threats to human health will increase. Health impacts of climate change are related to heat stress, waterborne diseases, poor air quality, extreme weather events, and diseases transmitted by insects and rodents. Robust public health infrastructure can reduce the potential for negative impacts." Key messages in the report on societal impacts include:

- "City residents and city infrastructure have unique vulnerabilities to climate change. "
- "Climate change affects communities through changes in climate-sensitive resources that occur both locally and at great distances."
- "Insurance is one of the industries particularly vulnerable to increasing extreme weather events such as severe storms, but it can also help society manage the risks."

Sustainable building design and construction cannot be about protecting the natural environment without consideration of the projected growth in severe weather. Minimum codes primarily based on past natural events are not appropriate for truly sustainable buildings. Buildings expected to have long term positive impacts on the environment must be protected from these extreme changes in the natural environment. The provisions for improved property protections are necessary to reduce the amount of energy and resources associated with repair, removal, disposal, and replacement due to routine maintenance and damage from disasters. Further such provisions reduce the time and resources required for community disaster recovery.

5. ***Sustainable Stewardship -*** *Historic preservation plays an essential role in fighting climate change ,Traditional Building,*
National Trust for Historic Preservation - 2008

In the article Richard Moe summarizes the results of a study by the Brookings Institution which projects that by 2030 we will have demolished and replaced 82 billion square feet of our current building stock, or nearly 1/3 of our existing buildings, largely because the vast majority of them weren't designed and built to last any longer. Durability, as a component of functional resilience, can reduce these losses.

6. Opportunities for Integrating Disaster Mitigation and Energy Retrofit Programs

Senate Environment and Public Works Committee Room, Dirksen Senate Office Building, Washington, D.C. - 2010

During this panel discussion a representative of the National Conference of State Historic Preservation Officers noted that more robust buildings erected prior to 1950 tend to be more adaptable for reuse and renovation. Prior to the mid-1950s most local jurisdictions developed their own building code requirements that uniquely addressed the community's needs, issues and concerns. Pre-1950 building codes typically resulted in more durable and robust construction that lasts longer.

The total environmental impact of insulation, high efficiency equipment, components, and appliances, low-flow plumbing fixtures, and other building materials and contents are relatively insignificant when rendered irreparable or contaminated and must be disposed of in landfills after disasters. The US Army Corps of Engineers estimated that after Hurricane Katrina nearly 1.2 billion cubic feet of building materials and contents ended up in landfills. This is analogous to stacking enough refrigerators a fifth of the way to the moon or placing them end to end around the equator of the Earth twice.

Cost Impact: The code change proposal will increase the cost of construction.

Staff note: This proposal is one of several proposals adding a new appendix L. The intention of the proponent has been indicated that the contents of the proposals be combined if they should be approved into a single Appendix L Titled "Appendix L, Building Resilience."

S338-12

Public Hearing:	Committee:	AS	AM	D
	Assembly:	ASF	AMF	DF