FIRE SAFETY WORK GROUP REPORT TO AHC MEETING #4

CHICAGO, IL - OCTOBER 5-6, 2011

PART I – ROUND 1 ISSUES CODE CHANGES

Issue 1: DECORATIONS ON WALLS Gary Lewis/Eugene Jaques 8-12-11

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

Exceptions:

1. Curtains, draperies, hangings and other decorative materials suspended from walls of *sleeping units* and *dwelling units* in dormitories in Group R-2 protected by an *approved automatic sprinkler system* installed in accordance with Section 903.3.1 and such materials are limited to not more than 50 percent of the aggregate area of walls.

2. Decorative materials, including, but not limited to, photographs and paintings in dormitories in Group R-2 where such materials are of limited quantities such that a hazard of fire development or spread is not present.

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

Exception: In Groups I-1 and I-2, decorative materials, including, but not limited to, bulletin boards, artwork, posters, photographs and paintings, covering not more than 20 percent of the specific wall area to which it is attached.

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

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

Reason: (Mike Crowley 9-16-11) Healthcare occupancies have areas for long term patients. These areas are for pediatrics, psychiatric, substance abuse recovery units, etc . Patient prepared art and seasonal decorations help define a friendlier environment. Current code limits the decorative material to materials meeting NFPA 701. The proposed exception will allow up to 20% of the wall area to be decorative material without NFPA 701 documentation. This allowable area is in response to the user's needs to address to display more artwork.

Justification:

The original requirements for Group I-1 & I-2 occupancies allow photos and paintings are of such limited quantities that a hazard of fire development or spread is not present. NFPA 701 flame propagation is required for other decorative material. These 2012 edition Section 806.1 requirements are independent of automatic sprinkler protection. Automatic sprinklers are required in Group I-1 & I-2 facilities. Automatic suppression will limit the fire propagation to the area of origin. The decorative finishes will not adversely affect the automatic sprinkler performance for typical materials of paper, cloth, textiles, and plastic films in quantities limited to less

than 20% of the wall area. Burning characteristics vary widely based on the material used. The new automatic sprinkler technology required by NFPA 13 "Standard for the Installation of Automatic Sprinklers" will respond quicker to a fire. Quick response automatic sprinklers are required in all new light hazard areas. The quick response sprinkler technology was mandated in NFPA 13 in the 1996 edition of the standard. Group I-1 & I-2 corridor and circulation spaces are considered light hazard area for automatic sprinkler protection. These quick response sprinklers will respond 3 to 5 times faster than standard response sprinklers. This faster response will start suppression when the fire is smaller with less heat and products of combustion generation.

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

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

Issue 1A: Natural Cut Trees in AHCF's: Bob Davidson 9-14-11

IFC 806.1 Natural cut trees. Natural cut trees, where allowed by this section, shall have the trunk bottoms cut off at least 0.5 inch (12.7 mm) above the original cut and shall be placed in a support device complying with Section 806.1.2.

IFC 806.1.1 Restricted occupancies. Natural cut trees shall be prohibited in Group A, B – Ambulatory Care Facilities, E, I-1, I-2, I-3, I-4, M, R-1, R-2 and R-4 occupancies.

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

NEEDS REASON STATEMENT

Issue 3: INTERCOMMUNICATION BETWEEN FLOOR OPENINGS Sharon Myers

Proposed code change: (John Williams 9-29-11)

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

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

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

1. Does not connect more than two stories.

2. Does not contain a stairway or ramp required by Chapter 10.

3. Does not penetrate a horizontal assembly that separates fire areas or smoke barriers that separate smoke compartments.

4. Is not concealed within the construction of a wall or a floor/ceiling assembly.

5. Is not open to a corridor in Group I and R occupancies.

6. Is not open to a corridor on nonsprinklered floors.

7. Is separated from floor openings and air transfer openings serving other floors by construction conforming to required shaft enclosures.

NEEDS REASON STATEMENT

Issue 4: SMOKE DAMPER EFFECTIVENESS & SHUTDOWN PARAMETERS Brooks Baker/Mark Goska:

Proposed code change:

IBC/2012 717.5.5 Smoke barriers. A *listed smoke damper* designed to resist the passage of smoke shall be provided at each point a duct or air transfer opening penetrates a *smoke barrier*. *Smoke dampers* and *smoke damper* actuation methods shall comply with Section 717.3.3.2.

Exceptions:

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

2. Smoke dampers are not required in Group I-2 occupancies where the HVAC system is fully ducted in accordance with the International Mechanical Code Section 603 and where buildings are provided with an automatic sprinkler system in accordance with Sections 903.3.1.1 and 903.3.2. ~~For the purposes of this exception, a fully ducted HVAC system shall be a duct system for conveying supply, return or exhaust air as part of the structure's HVAC system. Such a duct system shall be constructed of sheet steel not less than No. 26 gage thickness and shall be continuous from the air-handling appliance or equipment to the air outlet and inlet terminals.~~

NEEDS REASON STATEMENT

Issue 5. CORRIDOR WALLS/SMOKE PARTITIONS AND 5A.CEILING SMOKE RESISTANT MEMBRANE Sharon Myers **(**Jeff O'Neill 9-29-11):

Proposed code change:

710.4 Continuity. Smoke partitions shall extend from the top of the foundation or floor below to the underside of the floor or roof sheathing, deck or slab above or to the underside of the ceiling above where the ceiling membrane is constructed to limit the transfer of smoke. The ceiling membrane shall be a minimum of a tight fitting ceiling grid system with ceiling tiles one pound per square foot in weight.

Reason: Current interpretation of an allowable ceiling system is to be "monolithic." This type of ceiling is not realistic in a hospital setting, because main utility and ductwork lines run in the corridor to keep them out of patient care areas. This would facilitate the need for many access panels which compromise the smoke tight nature of the monolithic ceiling. A tight fitting lay-in grid is defined as one with no gaps in them, which is easily enforced via visual inspection and is therefore simply maintained. The one pound per square foot weight can handle an updraft concerns because a facility equipped with QRS sprinklers will not generate enough heat to cause the updraft to move the tile. Hold-down clips in this instance may run counter to the updraft, because if the fire is hot enough to cause the updraft, the metal grid system would warp at the connection points of the clips, causing more damage to the ceilings.

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

Substantiation
Forthcoming.

Issue 6: VENTILATON RATES Brooks Baker/Mark Goska 9-6-11

Proposed code change:

IMC 401.2 Ventilation required. Every occupied space shall be ventilated by natural means in accordance with Section 402 or by mechanical means in accordance with Section 403. Group I-2 hospitals and Ambulatory Care Facilities shall be provided with mechanical ventilation in accordance with Section 407.

IMC Table 403.3
MINIMUM VENTILATION RATES

OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, R_p CFM/PERSON	AREA OUTDOOR AIRFLOW RATE ON BREATHING ZONE, R_a CFM/FT² [a]	DEFAULT OCCUPANT DENSITY #/1,000 FT² [a]	EXHAUST AIRFLOW RATE CFM/ FT² [a]
Food and beverage service				
Bars, cocktail lounges				
Cafeteria, fast food				
Dining rooms				
Kitchens (cooking) [b]				
~~**Hospitals,**~~ **Nursing and convalescent homes** ~~Autopsy rooms~~ [b] Medical procedure rooms ~~Operating rooms~~ Patient rooms Physical therapy ~~Recovery and ICU~~				
Hotels, motels, resorts and dormitories				
Multipurpose assembly				
Bathrooms/toilets-private [g]				

(Portions of table and notes not shown do not change)

Add new text as follows:

Section 407
Group I-2 Hospitals and Ambulatory Care Facilities

Section 407.1 General. Group I-2 hospitals and Ambulatory Care Facilities shall have mechanical ventilation designed and installed in accordance with this code and ASHRAE 170.

Add new standard to Chapter 15 as follows:

ASHRAE

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

[Note: The above is similar in nature to the IMC referenced standard for the IIAR

NEEDS REASON STATEMENT

Issue 7: COOKING FACILITIES IN BREAK ROOMS – APPLICATION OF COMMERCIAL EXHAUST PROVISIONS (Tom Baldwin) 9-26-11 CTC Care Group-sponsored code change replaces Issue 7:

Proposed code change:

IMC SECTION 505
DOMESTIC KITCHEN EXHAUST EQUIPMENT

IMC 505.1 Domestic systems. Where domestic range hoods and domestic appliances equipped with downdraft exhaust are ~~located within dwelling units~~ provided, such hoods and appliances shall discharge to the outdoors through sheet metal ducts constructed of galvanized steel, stainless steel, aluminum or copper. Such ducts shall have smooth inner walls, shall be air tight, shall be equipped with a backdraft damper, and shall be independent of all other exhaust systems.

Exceptions:

1. In other than Group I-1 and I-2, where installed in accordance with the manufacturer's installation instructions and where mechanical or *natural ventilation* is otherwise provided in accordance with Chapter 4, *listed* and *labeled* ductless range hoods shall not be required to discharge to the outdoors.

2. Ducts for domestic kitchen cooking appliances equipped with downdraft exhaust systems shall be permitted to be constructed of Schedule 40 PVC pipe and fittings provided that the installation complies with all of the following:

2.1. The duct shall be installed under a concrete slab poured on grade.
2.2. The under floor trench in which the duct is installed shall be completely backfilled with sand or gravel.
2.3. The PVC duct shall extend not more than 1 inch (25 mm) above the indoor concrete floor surface.
2.4. The PVC duct shall extend not more than 1 inch (25 mm) above grade outside of the building.
2.5. The PVC ducts shall be solvent cemented.

IMC 505.2 Makeup air required. Exhaust hood systems capable of exhausting in excess of 400 cfm (0.19 m3/s) shall be provided with *makeup air* at a rate approximately equal to the *exhaust air* rate. Such *makeup air* systems shall be equipped with a means of closure and shall be automatically controlled to start and operate simultaneously with the exhaust system.

IMC 505.3 Other than Group R. In other than Group R occupancies, where domestic cooking appliances are utilized for domestic purposes they shall be equipped with domestic range hoods that discharge directly to the outdoors. Hoods shall be constructed in accordance with Section 505.1 and 505.2.

IMC 507
COMMERCIAL KITCHEN HOODS

IMC 507.2.3 Domestic cooking appliances used for commercial purposes. Domestic cooking appliances utilized for commercial purposes shall be provided with Type I or Type II hoods as required for the type of appliances and processes in accordance with Sections 507.2, 507.2.1 and 507.2.2. Domestic cooking appliances utilized for domestic purposes shall comply with Section 505.

Reason: The intent of this proposal is to clarify requirements and address new situations as Assisted Living and Nursing Home designs change.

Current requirements for domestic appliances used for domestic purposes are geared towards Group R facilities. When a stove is located in another use group, often a requirement for commercial hoods is misapplied. In a residential dwelling unit, often a range hood is not required if there is enough ventilation. Given the different types of facilities, this proposal would always require a hood when a range was provided in another use group.

As the style of assisted living facilities and nursing homes attempts to produce a more residential atmosphere, domestic ranges are provided either within the unit (some assisted living) or in common use areas (assisted living or nursing home residential 'suites'). Residents use this equipment for light cooking duties (few people and only occasional meals) or special cooking (i.e., cookies, cakes). If this equipment is used for cooking for a large number of residents on a regular basis, it is being used for commercial purposes, and it would fall under 507.2.3.

Hospitals or outpatient rehab facilities sometimes have domestic ranges in occupational therapy and dietician areas, the goal being to provide residents with training on good eating habits when they are at home.

Changes to 505.1 would allow residential and areas such as business break rooms to allow for recirculation if the mechanical system is designed for it.

Issue 9 FIRE ALARMS - AUDIBLE AND VISIBLE Tom Baldwin/Bob Davidson:

Private Mode Alarm Code Change Proposal:

2012 International Building & Fire Codes

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

Exceptions:

1. Manual fire alarm boxes in sleeping units of Group I-1 and I-2 occupancies shall not be required at exits if located at all care providers' control stations or other constantly attended staff locations, provided such stations are visible and continuously accessible and that travel distances required in Section 907.4.2.1 are not exceeded.

2. Occupant notification systems are not required to be activated where private mode signaling installed in accordance with NFPA 72 is approved by the fire code official and staff evacuation responsibilities are included in the fire safety and evacuation plan required by Section 404.

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

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

Exceptions:

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

2. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.10.1 of the *International Building Code* shall be connected to a separate notification zone for manual paging only.

NEEDS REASON STATEMENT

Issue 11: HAZARDOUS MATERIAL LOCATIONS (Incidental use areas) Jeff O'Neill

9-16-11 IBC Code Change (revised per 9-22-11 meeting plus staff edits for code style):

IBC 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
Laboratories and vocational shops, not classified as Group H, located in an ambulatory care facility or a Group E or I-2 occupancy	1 hour or provide automatic sprinkler system
Laboratories not classified as Group H, but considered a severe hazard in accordance with NFPA 45, located in a **Group I-2 hospital** occupancy .	1 hour and provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour
Physical plant and maintenance shops in a **Group I-2 hospital** occupancy.	1 hour
Waste and linen collection rooms located in either Group I-2 occupancies or ambulatory care facilities [a]	1 hour
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
Storage rooms greater than 100 square feet located in either **Group I-2 hospital** occupancies or ambulatory care facilities	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.

[a] with containers in volume of 10 cubic feet or greater

Reason:

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

The current version of the table does not address the occasion when materials in a laboratory increases, most notably in the aggregate of a larger histology / cytology laboratories. Materials such as xylene, hydrochloric acid, ethanol and fixatives (among others) present in these areas. Although they are stored in gallon and liter quantities, and not bulk storage, the quantities add up over the larger lab areas when they are in use at the benches. NFPA 45 is the current reference standard, as NFPA 99 no longer directly addresses ratings of spaces. Severe hazard

laboratories that fall into Class A and B of NFPA 45 have largely been eliminated from I-2 occupancies, but in their instance would still be subject to higher classes by virtue of being referenced in this table. The reference to not being H-occupancy in the table correlates to a Class A or B lab as described in NFPA 45. Class C and D labs exist in the I-2 occupancies, and are predominantly subject to 1-hour rated construction, or sprinkler coverage as the trade-off in existing. The distinction between two labs is made here in an attempt not to rely wholly on NFPA 45, but provide some guidance as to the distinction between smaller stat labs and larger clinical labs. Ambulatory care facilities has been added to the current laboratory category to address those support spaces such as stat labs that are set up for a specific purpose to save time in the B-occupancy setting. Larger scale lab operations are typically sent out to proprietary labs from ambulatory facilities. When addressing labs crossing the threshold into one hour rated construction, these labs are typically constructed as stand-alone operations and commonly appear in B occupancies anyway, and are subject to the current occupancy separation requirements.

Volume thresholds are being considered because basic exam spaces contain some level of waste containers and linen hampers without rising to the level of storage. The 64 gallon limit represents essentially two medium sized linen hampers and/or trash receptacles. Larger linen and waste receptacle containers, and not the smaller containers typically found in an exam room or patient sleeping room, are subject to volume rather than square footage of the room because a relatively small space, with the 64 gallon threshold crossed in a space well below, for example, 100 square feet. Reference to the IFC section relating to volumes has been added to the table as a footnote.

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

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

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

Note (a) was added to the table to address the differences in new versus existing requirements. The assumption is that all new construction will be fully sprinklered. In existing, the case may be that there is a non-sprinklered condition. Although the thinking is to retroactively require fully sprinklered for [I-2 Hospitals], the differentiation still needs to be made at this point.

Justification: none at this time.
Notes:

- 64 gallon [US dry] = 9.95565 cubic foot
- The term "**Group I-2 hospital**" is in place as a placeholder term until the work group addressing the occupancy question can establish concensus on a term that deals with hospital facilities separated from nursing homes and other I-2 types.

Part 2: International Fire Code

9-29-11 IFC Code Change (plus staff edits for code style):

IFC TABLE 1106
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
Laboratories and vocational shops, not classified as Group H, located in an ambulatory care facility or a Group E or I-2 occupancy	1 hour or provide automatic sprinkler system
Laboratories not classified as Group H, but considered a severe hazard in accordance with NFPA 45, located in a **Group I-2 hospital** occupancy .	1 hour or provide automatic sprinkler system
Laundry rooms over 100 square feet	1 hour or provide automatic sprinkler system
Group I-3 cells and Group I-2 patient rooms equipped with padded surfaces	1 hour
Physical Plant and Maintenance Shops in a **Group I-2 Hospital** occupancy.	1 hour or provide automatic sprinkler system
Waste and linen collection rooms located in either Group I-2 occupancies or ambulatory care facilities [a]	1 hour or provide automatic sprinkler system
Waste and linen collection rooms over 100 square feet	1 hour or provide automatic sprinkler system
Storage rooms greater than 100 square feet containing combustible materials located in **Group I-2 hospital** occupancies or ambulatory care facilities	1 hour or provide automatic sprinkler system
Stationary storage battery systems having a liquid electrolyte capacity of more than 50 gallons for flooded lead-acid, nickel cadmium or VRLA, or more than 1,000 pounds for lithium-ion and lithium metal polymer used for facility standby power, emergency power or uninterruptable power supplies	1 hour in Group B, F, M, S and U occupancies; 2 hours in Group A, E, I and R occupancies.

[a] with containers in volume of 10 cubic feet or greater

(NOTE: Entire new table underlining omitted for clarity)

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

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

Volume thresholds are being considered because basic exam spaces contain some level of waste containers and linen hampers without rising to the level of storage. The 64 gallon limit represents essentially two medium sized linen hampers and/or trash receptacles. Larger linen and waste receptacle containers, and not the smaller containers typically found in an exam room or patient sleeping room, are subject to volume rather than square footage of the room because a relatively small space, with the 64 gallon threshold crossed in a space well below, for example, 100 square feet. Reference to the IFC section relating to volumes has been added to the table as a footnote.

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

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

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

Note (a) addresses the differences in new versus existing requirements. The assumption is that all new construction will be fully sprinklered. In existing, the case may be that there is a non-sprinklered condition. Although the thinking is to retroactively require fully sprinklered for [I-2 Hospitals], the differentiation still needs to be made at this point.

Justification: none at this time.
Notes:

- 64 gallon [US dry] = 9.95565 cubic foot
- The term "**Group I-2 hospital**" is in place as a placeholder term until the work group addressing the occupancy question can establish concensus on a term that deals with hospital facilities separated from nursing homes and other I-2 types.

Issue 12 ALCOHOL-BASED HAND RUB DISPENSERS IN PATIENT ROOMS: Jack Chamblee (See also K-tag K211) 9-23-11:

Proposed code change:

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

1. The maximum capacity of each dispenser located in corridors, rooms and areas open to the corridor shall be ~~68 ounces (2 L)~~. 40.96 Ounces (1.2 L). Maximum capacity of each dispenser located in other areas shall be 68 Ounces (2 L).

2. The minimum separation between dispensers shall be 48 inches (1219 mm).

3. The dispensers shall not be installed ~~directly adjacent to, directly~~ above**,** ~~or~~ below**,** or closer than 1 inch **to** an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor or intervening counter top shall be free ~~remain clear and unobstructed~~ of electrical receptacles, switches, appliances, devices, or other ignition sources.

4. Dispensers shall be mounted so that the bottom of the dispenser is a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) above the finished floor.

5. Dispensers shall not release their contents except when the dispenser is manually activated. Facilities shall be permitted to install and use automatically activated “touch free” alcohol-based hand-rub dispensing devices with the following requirements:

5.1. The facility or persons responsible for the dispensers shall test the dispensers each time a new refill is installed in accordance with the manufacturer’s care and use instructions.
5.2. Dispensers shall be designed and must operate in a manner that ensures accidental or malicious activations of the dispensing device are minimized.
At a minimum, all devices subject to or used in accordance with this section shall have the following safety features:

5.2.1. Any activations of the dispenser shall only occur when an object is placed within 4 inches (98 mm) of the sensing device.
5.2.2. The dispenser shall not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the United States Food and Drug Administration (USFDA).
5.2.3. An object placed within the activation zone and left in place will cause only one activation.

6. Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 5704 and 5705.

7. Dispensers installed in occupancies with carpeted floors shall only be allowed in smoke compartments or fire areas equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

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

1. Level 2 and 3 aerosol containers shall not be allowed in corridors.

2. The maximum capacity of each Class I or II liquid dispenser shall be reduced to 40.96 ounces (1.2 L) and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg).

3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1,135 ounces (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one.

4. The minimum corridor width shall be 72 inches (1829 mm).

5. Projections into a corridor shall be in accordance with Section 1003.3.3.

NEEDS REASON STATEMENT

Issue 14 Fire Safety and Evacuation Plans (John Williams) 9-18-11 (See Also K-tag 50):

Proposed code change:

SECTION 404
FIRE SAFETY AND EVACUATION PLANS

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

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

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

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

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

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

8. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
9. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

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

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

SECTION 408
USE AND OCCUPANCY RELATED REQUIREMENTS

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

408.3.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff actions ~~needed to protect patients and the members of the public requiring special assistance~~. This shall include procedures for staff who ~~must~~ stabilize patients in a defend in place response prior to evacuation.

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

1. ~~1.~~ Locations where patients are located who are rendered incapable of self preservation
2. Maximum number of ~~any~~ patients rendered incapable of self preservation.
3. Area ~~Size~~ and extent of each Ambulatory Care Facility.
4. ~~Exits and access to exits from each Ambulatory Care Facility~~.

5. Location of adjacent smoke compartments or refuge areas, if required.
6. Path of travel to adjacent smoke compartments.
7. Location of any special locking, delayed egress or access control arrangements.

408.3.3 Maintenance of plans. Plans required by Sections 404 and 408.3 shall be maintained to reflect the current layout and procedure. Any changes to the plan shall be approved by the fire code official.

408.3.3 Staff training. Employees shall be instructed on their duties under the plan immediately upon employment. Such instruction shall be reviewed by the staff at least every two months. Records documenting training shall be maintained at the facility at all times.

408.6 Group I-2. Group I-2 occupancies shall comply with the requirements of Sections 408.3.x through 408.3.x and Section 401 through 406. Drills are not required to comply with the time requirements of Section 405.4.

408.6.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff *actions needed to protect patients and the members of the public requiring special assistance*. Plan shall include the following in addition to the requirements of Section 404.

1. Procedures for containment/evacuation of restrained patients, if present.
2. A written plan for maintenance of the means of egress.
3. Procedures for a full building evacuation, if necessary.

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

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

408.6.3 Maintenance of plans. Plans required by Sections 404 and 408.3 shall be maintained to reflect the current layout and procedures. Any changes to the plan shall be approved by the fire code official.

408.6.3 Staff training. Employees shall be instructed on their duties under the plan immediately upon employment. Such instruction shall be reviewed by the staff at least every two months. Records documenting training shall be maintained at the facility at all times.

408.6.4 Emergency Evacuation Drills. Emergency evacuation drills shall comply with Section 405.

Exceptions:

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

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

~~**408.6.2 Coded alarm signal.** When emergency evacuation drill are conducted after visiting hours or when patients are residents are expected to be asleep, a coded announcement shall be permitted instead of audible alarms.~~

Reason 408.6.4 : To be consistent with Section 19.7.1.6 of 2009 LSC.

NEEDS REASON STATEMENT

FIRE SAFETY WORK GROUP REPORT TO AHC MEETING #4

PART II – K-tag DISPOSITIONS

K-14 Corridor/Exit Interior Finish: Eugene Jaques **No code change needed.**

K-15 Non-corridor/exit Interior Finish: Eugene Jaques **No code change needed.**

K-16 Interior Floor Finish: Eugene Jaques **No code change needed.**

K-20 Vertical Openings: Sharon Myers **No code change needed.**

K-48 Evacuation Plans: John Williams (see Round 1, Issue 14 **code change**)

K-50 Fire Drills: John Williams (see Round 1, Issue 14 **code change**)

K-51 Fire alarm system required: Tom Baldwin **No code change needed.**

K-52 Fire alarm installation: Tom Baldwin **No code change needed.**

K-54 Smoke detector testing: Tom Baldwin **No code change needed.**

K-55 Window in patient rooms: Tom Baldwin **No code change needed.**

K-56 Retroactive sprinklers: Sharon Myers **No code change needed.**

K-60 Fire Alarm Initiation: Eugene Jaques **No code change needed.**

K-61 Sprinkler Valve Supervision Local Signal: Eugene Jaques **No code change needed.**

K-62 Sprinkler System Maintenance: Eugene Jaques **No code change needed.**

K-63 Sprinkler System Adequate Water Supply: Eugene Jaques **No code change needed.**

K-64 Fire Extinguishers Required: Eugene Jaques **No code change needed.**

K-66 Smoking Regulations: Jack Chamblee

Proposed code change:

310.3 "No Smoking" signs. The *fire code official* is authorized to order the posting of "No Smoking" signs in a conspicuous location in each structure or location in which smoking is prohibited. The content, lettering, size, color and location of required "No Smoking" signs shall be approved.

310.3.1 Group I-2 hospitals. "No Smoking" signs, in Group I-2 Hospital occupancies where smoking is prohibited are not required in secondary locations of the facility where the signs are displayed at all major entrances into the facility.

NEEDS REASON STATEMENT

Jack's K-tag review: The IFC 310 does not include the prohibition of non-responsible patients from smoking as outlined in 19.7.4.2. Note: the exception listed in the 2000 version of NFPA 101 -19.7.4.2 referring to the patient may smoke if they are under direct supervision has been deleted in the 2009 NFPA 101 Code. Also, in 19.7.4.2, it allows the deletion of all secondary no smoking signs if the signs are displayed prominently at all major entrances. IFC does not address this in 310.3.

K-73 Highly flammable furnishings/decorations: Jeff O'Neill **No code change needed.**

K-74 Draperies/hanging decorations: Jeff O'Neill **No code change needed.**

K-75 Soiled linen or trash containers: Jeff O'Neill **No code change needed.**

K-76 Medical gas storage: Jack Chamblee

Proposed code change:

IFC 5306.2.1 One-hour exterior rooms. A 1- hour exterior room shall be a room or enclosure separated from the remainder of the building by fire barriers constructed in accordance with Section 707 of the *International Building Code* or horizontal assemblies constructed in accordance with Section 711 of the *International Building Code*, or both, with a fire-resistance rating of not less than 1- hour. Openings between the room or enclosure and interior spaces shall be self-closing smoke- and draft-control assemblies having a fire protection rating of not less than 1hour. Rooms shall at least one exterior wall that is provided with at least two non-closable louvered vents. Each vent shall have an aggregate free opening of 24 square inches (155 cm2) per 35 L (1,000 cubic feet of fluid) and shall not be less than ~~36~~ 72 square inches (~~0.023 m2~~ 465 cm2) in aggregate free opening area. One vent shall be within 6 inches (152 mm) of the floor and one shall be within 6 inches (152 mm) of the ceiling. Rooms shall be provided with at least one automatic sprinkler to provide container cooling in case of fire.

NEEDS REASON STATEMENT

K-103 Interior walls Type I & II const: Sharon Myers **No code change needed.**

K-154 Automatic sprinkler issues: Eugene Jaques **No code change needed.**

K-155 Fire Protection system out of service: Tom Baldwin **No code change needed.**

K-160 Existing elevator recall issues: Brooks Baker (see Round 1, Issue 2 cross-over to MOE)

No code change needed.

K-211 ABHR's: Jack Chamblee (see Round 1, Issue 12 **code change**)

FIRE SAFETY WORK GROUP REPORT TO AHC MEETING #4

PART III

AD HOC COMMITTEE ON HEALTHCARE
MEETING # 3
August 10 & 11, 2011
Chicago, IL

FIRE/FIRE SAFETY WORK GROUP (FSWG) REPORT
(IBC Chapters 7 – 9, 14, 15; IFC; IMC)

CURRENT CODE ISSUES
(based on issues identified at AHC #1)

The AHC should first review the following issues for approval/conclusion or provide additional feedback to the FSWG. Note that the code change proposals may be subject to editorial revision prior to final submittal:

Issue #1: Limiting combustible decorations on walls.

Issue #6: Ventilation rates. Adding a reference to ASHRAE 170 for detailed hospital ventilation rates.

Issue #9: Fire Alarms – Audible & visible

Issue #11: Hazardous materials locations

Issue #14. Fire Safety and Evacuation Plans

ISSUE 1. DECORATIONS ON WALLS (Eugene Jaques)
Conclusion: The following IBC code change proposal is the result of the FSWG's efforts on this issue:

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

Exceptions:

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

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

Exception: In Groups I-1 and I-2, decorative materials, including, but not limited to, bulletin boards, artwork, posters, photographs and paintings, covering less than 20 percent of the wall area.

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

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

Reason: This proposal would limit creation of continuous surfaces of combustible material such as bulletin boards, artwork, posters, photographs and paintings in sprinklered Groups I-1 and I-2 to 20 percent of the wall area. This is consistent with Groups E and I-4 regulations on combustible decorative materials in IFC Sections 807.4.3.2 and 807.4.4.2. These combustible decorative materials can include large sheets of lightweight paper (like newsprint) and similar material that ignite easily and propagate flame rapidly. Since the occupants in Groups I-1 and I-2 are as vulnerable as those in Groups E and I-4, they should be afforded the same level of protection.

Additional work is needed on prohibiting natural cut trees in Group B Ambulatory Care Facilities and correlating with the IFC.

Notes:

- A lesser percentage for decorative materials in non-sprinklered buildings will be addressed in the IFC for change of occupancy and alterations.
- ASHE will provide pictures for substantiation by working with Jeff O'Neill.
- ***Move to code change proposal document.***
- Change or occupancy and alteration section should indicate clarify the broad application is assuming sprinklered buildings.
- New York and Virginia has increased the decorative materials to 50% in dormitories.

ISSUE 2. ELEVATOR RECALL PROCEDURES WHEN THERE IS SMOKE IN MACHINE ROOM/ELEVATOR LOBBY

Conclusion: By direction of the AHC at Meeting #2, moved to Means of Egress Work Group.

ISSUE 3. INTERCOMMUNICATION BETWEEN FLOOR OPENINGS (Sharon Myers**)**

Discussion: Sharon Myers has prepared a comparison matrix but has received no feedback/further input from the FSWG on its content. The ASHE research report on smoke resistance of membrane ceilings has not been received. Also, this issue needs coordination with the on-going CTC project on unenclosed stairs. Section 708.2.7 of IBC/2012 will be reviewed for possible code change to eliminate the exception for no smoke control system in Group I-2.

Conclusion: Additional work is needed on this issue.

ISSUE 4. MECHANICAL SYSTEMS/SMOKE CONTROL (Brooks Baker/Mark Goska, Alternate)

4A.SMOKE DAMPER EFFECTIVENESS
4B.SHUTDOWN PARAMETERS
4C.SMOKE CONTROL IN OPERATING ROOMS
4D.NFPA 99

4A Discussion: Mark Goska submitted the following code change proposal based on WG discussions and feedback from interested parties:

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 shall comply with section 717.3.3.2.

Exceptions:

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

2. Smoke dampers are not required with a fully ducted closed mechanical system, the building is equipped throughout with an automatic sprinkler system in accordance with Sections 903.3.1.1 and 903.3.2 and when the defend in place strategy from Section 407.X and 422.X are utilized.

4 A Conclusion: Further discussion and direction is requested from the AHC on this issue.

4B Conclusion: This item has been folded into the work on Issue #4A

4C Conclusion: At the AHC meeting #2, it was determined that smoke control requirements need not be added to the IBC or IFC. The requirement to provide smoke control in OR's appear to be rooted in the misperception of some that life safety systems are to comply w/ NFPA 92A or IBC 909. With the changes made in the type of anesthetics being administered in OR's to a non-flammable type, and the fact that healthcare personnel are trained in the movement of

patients to other compartments and how to close doors to contain byproducts of a fire within the room of origin, smoke control for life safety purposes would generally not be necessary.

4D Conclusion: Moved to parking lot at AHC Meeting #2.
Notes:

- Define what is fully ducted system? See NFPA 90A.
- Coordinate with General study group

ISSUE 5. CORRIDOR WALLS/SMOKE PARTITIONS (Sharon Myers**)**
5A.CEILING SMOKE RESISTANT MEMBRANE

Discussion: The task group is still awaiting data and technical reports on smoke transmission through ceilings from ASHE.

Conclusion: None at this time.

ISSUE 6. VENTILATON RATES (Brooks Baker/Mark Goska, Alternate)
Discussion: Currently Group I-2 ventilation rates are outlined in Table 403.3 of the IMC, Table 2.1-2 of the Guidelines for the Design and Construction of Health Care Facilities, and ASHRAE 170. It is felt that the IMC needs more specificity for hospitals, as indicated in the proposed code change below:

Conclusion: The following code change to the IMC is proposed:

Proposed Language Change:

- "Delete" the 6 spaces identified under "Hospitals, nursing and convalescent homes" and insert footnote "J"
- "Add" footnote "J" which states the following: "For hospitals ventilation rates refer to ASHRAE Standard 170, Table 7-1 and addenda 1-5.

IMC TABLE 403.3

MINIMUM VENTILATION RATES

OCCUPANCY CLASSIFICATION	PEOPLE OUTDOOR AIRFLOW RATE IN BREATHING ZONE, *Rp* CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHIN ZONE, *Ra* CFM/FT2	DEFAULT OCCUPANT DENSITY #/1000 FT2	EXHAUST AIRFLOW RATE CFM/FT2
Food and beverage service				
Bars, cocktail lounges				
Cafeteria, fast food				
Dining rooms				
Kitchens (cooking)b				
~~**Hospitals, nursing and convalescent homes *j***~~ ~~Autopsy rooms~~ ~~Medical procedure rooms~~ ~~Operating rooms~~ ~~Patient rooms~~ ~~Physical therapy~~ ~~Recovery and ICU~~				
Hotels, motels, resorts and dormitories				
Multipurpose assembly				
bathrooms/toilets-private *g*				

For SI: 1 cubic foot……
a. Based upon…..
b. Mechanical exhaust….
c. Spaces unheated….
h. For nail salons….
~~j. For Hospitals ventilation rates, refer to ASHRAE Standard 170, Table 7-1, with associated issued addenda 1-5 a, b, d, e, f and g.~~

(portions of table not shown do not change.)

Justification: Currently Table 403.3 if the IMC has a limited number of spaces identified with ventilation rates, additionally if a room is not identified in the table then one is required to use the ventilation rate of an adjacent room that is on the list which is problematic if the space usage is vastly different. ASHRAE Standard 170, Table 7-1 has more comprehensive in the spaces that are identified as well as the design parameter requirements.

Notes:

- Correct code language – Group I-2 hospital ventilation rates shall comply with ASHRAE 170 Table 7-1. Put year of standard and addenda in Chapter 35.
- Coordinate with CTC care facilities for nursing home requirements
- Move note to text (not footnote) for hospitals, ambulatory care facilities – maybe IMC 403.1.
- Delete section in IMC Table 403.3.
- ASHRAE 170 is already mandatory for ventilation for hospitals, nursing homes and ambulatory care facilities by the federal requirements. Reference standard with specific scope of ventilation requirements for these facilities.
- Back to committee for revisions.

ISSUE 7. COOKING FACILITIES IN BREAK ROOMS – APPLICATION OF COMMERCIAL EXHAUST PROVISIONS (Tom Baldwin)

Discussion: Preliminary code change development work is done however, Tom is seeking input on domestic appliances from manufacturer's and will incorporate that information into his IMC code change draft, which is as follows:

IMC 507.2 Where required. A Type I or Type II hood shall be installed at or above all commercial cooking appliances in accordance with Sections 507.2 and 507.2.2. Where any cooking appliance under a single hood requires a Type I hood, a Type I hood shall be installed. Where a Type II hood is required, a Type I or Type II hood shall be installed.

Exceptions:

1. Commercial hoods shall not be required for appliances listed and labeled as household-type appliances when used in employee break-rooms, minor teaching areas, family waiting areas, conference rooms and similar use areas.

2. Where cooking appliances are equipped with integral down-draft exhaust systems and such appliances and exhaust systems are listed and labeled for application in accordance with NFPA 96, a hood shall not be required at or above them.

Conclusion: Work is on-going.

Notes:

- PMC 403.3 starts to address this issue
- What is acceptable for a residential cooking appliance that is not in a home but used in a non-residential setting and for commercial cooking (i.e., rehab, break rooms) – IMC 507.2.3
- Exceptions must be to the primary text – this exception is not applicable to this text

ISSUE 8. IMPACT OF AUTOMATIC GUIDED VEHICLES (Enrique Unanue)

8A.CHARGING LOCATIONS
8B.PLACEMENT OF HAZARDOUS MATERIALS IN CORRIDOR
8C.IMPACT ON CORRIDOR WIDTH

Issues 8A and 8B have been transferred to Issue 14.
Issue 8C was referred to the MOE Work Group as a cross-over issue.

Conclusion: No further action as a separate item needed.

ISSUE 9. FIRE ALARMS - AUDIBLE AND VISIBLE (Tom Baldwin)

See combined report for 'defend-in-place' proposal under separate file.

Discussion: The General WG has created a definition for “defend-in-place” as an evacuation technique, which is included in the following proposal.

Conclusion: The following multi-part code change is suggested (see also issue #14 which will be correlated with this proposal):

2012 International Building Code, Chapter 2

DEFEND IN PLACE. A method of emergency response that relies on building components to ensure occupant safety during a fire that does not evacuate occupants from the building. Emergency response involves occupants remaining in place or relocating within the building, or application of both methods. Application of defend in place methods shall be described in the fire evacuation plan as described in Section 404.3 of the *International Fire Code*.

2012 International Fire Code, Chapter 2

DEFEND IN PLACE. A method of emergency response that relies on building components to ensure occupant safety during a fire that does not evacuate occupants from the building. Emergency response involves occupants remaining in place or relocating within the building, or application of both methods. Application of defend in place methods shall be described in the fire evacuation plan as described in Section 404.3.

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

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

1. Emergency egress or escape routes and whether evacuation of the building is to be complete, ~~or, where *approved*~~, by selected floors or areas only, or relocation with a defend-in-place strategy.
2. Procedures for employees who must remain to operate critical equipment before evacuating.
3. Procedures for assisted rescue for persons unable to use the general *means of egress* unassisted.
4. Procedures for accounting for employees and occupants after evacuation has been completed.
5. Identification and assignment of personnel responsible for rescue or emergency medical aid.
6. The preferred and any alternative means of notifying occupants of a fire or emergency.
7. The preferred and any alternative means of reporting fires and other emergencies to the fire department or designated emergency response organization.
8. Identification and assignment of personnel who can be contacted for further information or explanation of duties under the plan.
9. A description of the emergency voice/alarm communication system alert tone and preprogrammed voice messages, where provided.

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

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

7. Identification and assignment of personnel responsible for maintenance, housekeeping and controlling fuel hazard sources.

408.5 Group I-1 occupancies. Group I-1 occupancies shall comply with the requirements of Sections 408.5.1 through 408.5.5 and Sections 401 through 406.

408.5.1 Fire safety and evacuation plan. The fire safety and evacuation plan required by Section 404 shall include special staff actions including fire protection procedures necessary for residents and ~~for~~ occupants. The plan shall be amended or revised upon admission of any resident with unusual needs.

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

408.5.3 Resident training. Residents capable of assisting in their own evacuation shall be trained in the proper actions to take in the event of a fire. The training shall include actions to take if the primary escape route is blocked. Where the resident is given rehabilitation or habilitation training, training in fire prevention and actions to take in the event of a fire shall be a part of the rehabilitation training program. Residents shall be trained to assist each other in case of fire to the extent their physical and mental abilities permit them to do so without additional personal risk.

408.5.4 Drill frequency. Emergency evacuation drills shall be conducted at least six times per year, two times per year on each shift. Twelve drills shall be conducted in the first year of operation. Drills are not required to comply with the time requirements of Section 405.4.

408.5.5 Resident participation. Emergency evacuation drills shall involve the actual evacuation of residents to a selected assembly point.

408.6 Group I-2 occupancies. Group I-2 occupancies shall comply with the requirements of Sections 408.6.1 and 408.6.~~2~~ 4 and Sections 401 through 406. Drills are not required to comply with the time requirements of Section 405.4.

408.6.1 Fire safety and evacuation plan. The fire safety and evacuation plan required by Section 404 shall include special staff actions including fire protection procedures necessary for residents and occupants.

408.6.2 Staff training. Promptly upon hiring, staff shall be instructed of their duties and responsibilities under the plan. Staff shall review the plan at least every two months. A copy of the plan shall be readily available at all times within the facility.

408.6.~~1~~ 3 Evacuation not required. During emergency evacuation drills, the movement of patients to safe areas or to the exterior of the building is not required.

408.6.~~2~~ 4 Coded alarm signal. When emergency evacuation drills are conducted after visiting hours or when patients or residents are expected to be asleep, a coded announcement is allowed instead of audible alarms.

408.7 Group I-3 occupancies. Group I-3 occupancies shall comply with the requirements of Sections 408.7.1 through 408.7.~~4~~ 6 and Sections 401 through 406.

408.7.1 Fire safety and evacuation plan. The fire safety and evacuation plan required by Section 404 shall include special staff actions including fire protection procedures necessary for residents and occupants.

408.7.2 Staff training. Promptly upon hiring, staff shall be instructed of their duties and responsibilities under the plan. Staff shall review the plan at least every two months. A copy of the plan shall be readily available at all times within the facility.

408.7.~~1~~ 3 ~~Employee~~ Fire suppression training. Employees shall be instructed in the proper use of portable fire extinguishers and other manual fire suppression equipment. Training of new staff shall be provided promptly upon ~~entrance on duty~~ hiring. Refresher training shall be provided at least annually.

408.7.~~2~~ 4 Staffing. Group I-3 occupancies shall be provided with 24-hour staffing. Staff shall be within three floors or 300 feet (91 440 mm) horizontal distance of the access door of each resident housing area. In Use Conditions 3, 4 and 5, as defined in Chapter 2, the arrangement shall be such that the staff involved can start release of locks necessary for emergency evacuation or rescue and initiate other necessary emergency actions within 2 minutes of an alarm.

Exception: Staff shall not be required to be within three floors or 300 feet (9144 mm) in areas in which all locks are unlocked remotely and automatically in accordance with Section 408.4 of the *International Building Code*.

408.7.~~3~~ 5 Notification. Provisions shall be made for residents in Use Conditions 3, 4 and 5, as defined in Chapter 2, to readily notify staff of an emergency.

408.7.4 6 Keys. Keys necessary for unlocking doors installed in a *means of egress* shall be individually identifiable by both touch and sight.

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

Exceptions:

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

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

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

Exceptions:

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

2. Where provided, audible notification appliances located in each occupant evacuation elevator lobby in accordance with Section 3008.5.1 of the *International Building Code* shall be connected to a separate notification zone for manual paging only.

Notes:

- Limit the audible exception to critical care areas
- Consider sound pressure
- Define general, patient and/or critical care areas – see NFPA 99 as example
- Where do you also want to delete visible alarms? 907.5.3 – allow for private mode in NFPA 72
- Need to address audible and visible alarms in ambulatory care facility critical care areas under Group B alarm requirements
- Coordinate exceptions with CTC care facilities for nursing homes
- Just the Chapter 9 part back to committee with comments
- Defend in place and remaining portions of proposal addressed in combined proposal from John Williams and Sharon Meyers.

ISSUE 10. NEW AND EXISTING FACILITIES TO BE FULLY SPRINKLERED (Eugene Jaques)

Conclusion: This is General WG Topic #8, and so is placed in the parking lot.

ISSUE 10A.TESTING PARAMETERS (Eugene Jaques)

Conclusion: A referenced standard issue. Placed in the "Parking Lot".

ISSUE 11. HAZARDOUS MATERIAL LOCATIONS (Jack Chamblee)

Discussion: Note that the treatment of laboratories (specifically in regard to NFPA 45) was discussed in great detail on the General Workgroup call, as a standard reference that may need to added. This is a crossover issue.

Conclusion: The following code change proposal is submitted:

Purpose: To bring the relevant incidental use chart consistent with areas currently being maintained in hospital and ambulatory care occupancies.
Relevant Code Section(s): 2012 IBC Table 509, Incidental Accessory Occupancies
~~2012 IFC Table xxx.x.x, Incidental Accessory Occupancies~~
Proposed Change Language:

ROOM OR AREA	SEPARATION AND/OR PROTECTION
Laboratories~~,~~ and vocational shops not classified as group H, located in a Group E ~~or Group I-2~~ occupancy.	1 hour or provide automatic extinguishing system
Laboratories, physical plant maintenance and repair shops, not classified as group H, located in a Group I-2 occupancy.	1 hour
~~Group I-2~~ waste and soiled linen collection rooms ~~with containers with an aggregate quantity of greater than 64 gallons~~ in a Group I-2 occupancy and Ambulatory Care Facilities.	1 hour and provide an automatic sprinkler system
Flammable Gas Storage Rooms and Flammable Liquid Storage Rooms not classified as Group H in a Group I-2 occupancy.	2 hours
Piped oxygen tank supply rooms not classified as Group H in a Group I-2 occupancy [a].	1 hour
Storage rooms for combustible materials greater than 100 square feet in a Group I-2 occupancy	1 hour
Gift Shops and their associated storage greater than 500 square feet in a Group I-2 occupancy	1 hour

[a] – Such rooms shall comply with Section 5306 of the *International Fire Code*.

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

Notes:

- Should gift shops and their associated storage be included in this table and/or Section 407.2.4 – taken out of NFPA 101
- Laboratories (NFPA 45) separation to be addressed by General
- Need to look at procedural suites with flammable materials
- Coordinate with exception for alcohol based hand rubs
- Don't use storage container size to regulate waste and soiled linen room. Would encourage an inspector to consider any room to comply with soiled linen rooms
- Flammable gas and liquid storage rooms and oxygen tanks should consider the implications of small amounts in any room and conflicts with control area requirements. Same for storage of combustible materials.
- Consider coordination with 407 for gift shops
- IFC 304.3.2 and 808 – look at garbage containers

11A.MEDICAL GASES (Jack Chamblee)

Conclusion: Moved to the "parking lot" @ AHC Meeting #2.

ISSUE 12. ALCOHOL DISPENSERS IN PATIENT ROOMS (Jack Chamblee)

Discussion: The following is Jack Chamblee's report with revised code change proposal for AHC review and comment:

Based on our discussion last week on ABHR Dispensers, it was apparent that we were moving off of the original intent of the review of this item and were headed into some areas where we probably need to get concurrence from the Committee if this is where we need to go.

We were originally tasked with a review of this section and to incorporate language to support the position which would allow a countertop to be installed under a ABHR dispenser and to keep the wall space between the dispenser and the floor/countertop clear of any ignition sources.

We have also reviewed in these discussions the following points which will need additional attention if we so choose to address these items:

1. Type of construction materials for the countertop under a ABHR Dispenser
2. Type of finish materials on the floor underneath a ABHR Dispenser
3. Absorption rate of these materials which the liquid comes into contact and its reaction, if any, to the materials
4. The amount of clear horizontal distance from the Dispenser to an electrical device and whether a minimum dimension of 1" was enough clearance or would more space be required. This decision would be based on what type of research data to support this dimension?

The complete Code passage for reference in our upcoming discussion which we've modified below to include the "countertop" comment plus a couple of additional clarifications (credit to Robert Davidson for his input on these):

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

1. The maximum capacity of each dispenser shall be 68 ounces (2 L).

2. The minimum separation between dispensers shall be 48 inches (1219 mm).

3. The dispensers shall not be installed directly adjacent to, directly above or below an electrical receptacle, switch, appliance, device or other ignition source. The wall space between the dispenser and the floor **or intervening counter top** shall remain clear and unobstructed.

4. Dispensers shall be mounted so that the bottom of the dispenser is a minimum of 42 inches (1067 mm) and a maximum of 48 inches (1219 mm) above the finished floor.

5. Dispensers shall not release their contents except when the dispenser is manually activated. Facilities shall be permitted to install and use automatically activated "touch free" alcohol-based hand-rub dispensing devices with the following requirements:

5.1. The facility or persons responsible for the dispensers shall test the dispensers each time a new refill is installed in accordance with the manufacturer's care and use instructions.

5.2. Dispensers shall be designed and must operate in a manner that ensures accidental or malicious activations of the dispensing device are minimized. At a minimum, all devices subject to or used in accordance with this section shall have the following safety features:

5.2.1. Any activations of the dispenser shall only occur when an object is placed within 4 inches (98 mm) of the sensing device.

5.2.2. The dispenser shall not dispense more than the amount required for hand hygiene consistent with label instructions as regulated by the United States Food and Drug Administration (USFDA).

5.2.3. An object placed within the activation zone and left in place will cause only one activation.

6. Storage and use of alcohol-based hand rubs shall be in accordance with the applicable provisions of Sections 5704 and 5705.

7. Dispensers installed in occupancies with carpeted floors shall only be allowed in smoke compartments or fire areas equipped throughout with an approved automatic sprinkler system in accordance with Section 903.3.1.1 or 903.3.1.2.

5705.5.1 Corridor installations. Where wall-mounted dispensers containing alcohol-based hand rubs are installed in corridors, they shall also be in accordance with all of the following *~~**in addition to the requirements of Section 5705.5**~~*:

1. Level 2 and 3 aerosol containers shall not be allowed in corridors.

2. The maximum capacity of each Class I or II liquid dispenser shall be ~~reduced to~~ 41 ounces (1.21 L) and the maximum capacity of each Level 1 aerosol dispenser shall be 18 ounces (0.51 kg).

3. The maximum quantity allowed in a corridor within a control area shall be 10 gallons (37.85 L) of Class I or II liquids or 1135 ounces (32.2 kg) of Level 1 aerosols, or a combination of Class I or II liquids and Level 1 aerosols not to exceed, in total, the equivalent of 10 gallons (37.85 L) or 1,135 ounces (32.2 kg) such that the sum of the ratios of the liquid and aerosol quantities divided by the allowable quantity of liquids and aerosols, respectively, shall not exceed one.

4. The minimum corridor width shall be 72 inches (1829 mm).

5. Projections into a corridor shall be in accordance with Section 1003.3.3.

Notes:

- 5705.5 Item 3. Propose to delete the 2nd section. The first sentence deals with electrical equipments. The 2nd sentence is not related and not part of the modeling for hazards. If it is a problem, it should be addressed in another section.
- Four points about surfaces before the proposal – modeling only addressed carpet (which is exempted)
- Specify 1" minimum (in NFPA 101) instead of directly adjacent to give a measurable distance.

ISSUE 13. CLINICAL LABS/HAZARDOUS EXHAUST (Jack Chamblee)

Conclusion: Jack has conducted a comparison of IMC Section 510 and NFPA 45 and found that they are sufficiently parallel that no further action is needed. Note, however, that the treatment of laboratories (specifically in regard to NFPA 45) was discussed in great detail on the General Workgroup call, as a standard reference that may need to added. This is a crossover issue.

Issue 14. Fire Safety and Evacuation Plans: (Sharon Myers)

Conclusion: The following code change proposal is submitted, to be correlated with the proposed code change for Issue #9:

Disregard – see instead combined proposal under separate file.

SECTION 404
FIRE SAFETY AND EVACUATION PLANS

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

404.2 Where required. An *approved* fire safety and evacuation plan shall be prepared and maintained for the following occupancies and buildings:
1. Group A, other than Group A occupancies used exclusively for purposes of religious worship that have an *occupant load* less than 2,000.

2. Group B.

2.1 . Buildings having an ambulatory health care facility use or tenant space regardless of occupant load.

2.2. Buildings having an *occupant load* of 500 or more *persons* or more than 100 *persons* above or below the lowest *level of exit discharge*.

3. through 15. (No change to current text.)

SECTION 408
USE AND OCCUPANCY RELATED REQUIREMENTS

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

408.3.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff actions needed to protect patients and the members of the public requiring special assistance. This shall include procedures for staff who must stabilize patients in a defend in place response prior to evacuation.

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

8. Location and number of any patient rendered incapable of self preservation.
9. Size and extent of each Ambulatory Care Facility.
10. Exits and access to exits from each Ambulatory Care Facility.
11. Location of adjacent smoke compartments or refuge areas, if required.
12. Path of travel to adjacent smoke compartments.
13. Location of any special locking, delayed egress or access control arrangements.

408.3.3 Maintenance of plans. Plans required by Sections 404 and 408.3 shall be maintained to reflect the current layout and procedure. Any changes to the plan shall be approved by the fire code official.

408.3.3 Staff training. Employees shall be periodically instructed and kept informed of their duties under the plan. Such instruction shall be reviewed by the staff at least every two months. Records documenting training shall be maintained at the facility at all times.

408.6 Group I-2. Group I-2 occupancies shall comply with the requirements of Sections 408.3.x through 408.3.x and Section 401 through 406. ~~Drills are not required to comply with the time requirements of Section 405.4.~~

408.6.1 Fire evacuation plan. The fire safety and evacuation plan required by Section 404 shall include a description of special staff actions needed to protect patients and the members of the public requiring special assistance. Plan shall include the following in addition to the requirements of Section 404:

4. Procedures supporting a defend in place response.
5. Procedures for a full building evacuation.
6. Procedures for containment/evacuation of restrained patients, if present.
7. A description of the staff actions necessary in areas with a private mode alarm.
8. A written plan for maintenance of the means of egress.

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

6. Location and number of any patient sleeping rooms and operating rooms.
7. Location of adjacent smoke compartments or refuge areas.
8. Path of travel to adjacent smoke compartments.
9. Location of any special locking, delayed egress or access control arrangements.
10. Location of occupant evacuation elevators, if provided.

408.6.3 Maintenance of plans. Plans required by Sections 404 and 408.3 shall be maintained to reflect the current layout and procedures. Any changes to the plan shall be approved by the fire code official. Temporary modifications to the fire safety system shall be in accordance with Section XXX.x.

408.6.3 Staff training. Employees shall be instructed on their duties under the plan immediately upon employment. Such instruction shall be reviewed by the staff at least every two months. Records documenting training shall be maintained at the facility at all times.

408.6.4 Emergency Evacuation Drills. Emergency evacuation drills shall comply with Section 405.

Exceptions:

3. Drills are not required to comply with the time requirements of Section 405.4.
4. The movement of patients to safe areas or to the exterior of the building is not required.
5. When emergency evacuation drill are conducted after visiting hours or when patients are residents are expected to be asleep, a coded announcement shall be permitted instead of audible alarms.

~~**408.6.1 Evacuation not required.** During emergency evacuation drills, the movement of patients to safe areas or to the exterior of the building is not required.~~
~~**408.6.2 Coded alarm signal.** When emergency evacuation drill are conducted after visiting hours or when patients are residents are expected to be asleep, a coded announcement shall be permitted instead of audible alarms.~~

NEW CODE ISSUES

None at this time.

WG CROSS OVER ISSUES

None at this time.

FURTHER RESEARCH ISSUES

ISSUE 5A (AHC Mtg #2): It was suggested that the issue of ceiling tile uplift under fire conditions should be studied before final submittal of a code change proposal. Some research has been done with both standard response and QR sprinklers with no significant problems noted. This is an item that should be referred for additional ASHE research work.

AHC MEETING 3 UPDATE: The task group is still awaiting data and technical reports on smoke transmission through ceilings from ASHE.

OUT-OF-SCOPE ISSUES/"PARKING LOT"

Issue #4D: Moved here per AHC Meeting #2.
Issue #10: This duplicates General WG Topic #8, and so is placed in the parking lot.
Issue #10A: Moved here per AHC Meeting #2.
Issue #11A: Moved here per AHC Meeting #2.

ADDITONAL ISSUES TO BE BROUGHT TO AHC ATTENTION

None at this time.