

## AHC #3 Meeting Minutes – Appendix B

### FIRE/FIRE SAFETY WORK GROUP (FSWG) REPORT & NOTES FROM AHC #3 (IBC Chapters 7 – 9, 14, 15; IFC; IMC)

This appendix is based on the AHC's review of the noted Work Group Report at AHC Meeting #3. Notes from the meeting are indicated in red.

#### 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. VENTILATION 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, <i>R<sub>p</sub></i> CFM/PERSON	AREA OUTDOOR AIRFLOW RATE IN BREATHIN ZONE, <i>R<sub>a</sub></i> CFM/FT <sup>2</sup>	DEFAULT OCCUPANT DENSITY #/1000 FT <sup>2</sup>	EXHAUST AIRFLOW RATE CFM/FT <sup>2</sup>
<b>Food and beverage service</b>				
Bars, cocktail lounges				
Cafeteria, fast food				
Dining rooms				
Kitchens (cooking) <sup>b</sup>				
<del>Hospitals, nursing and convalescent homes-<i>j</i> Autopsy rooms<sup>b</sup> Medical procedure rooms Operating rooms Patient rooms Physical therapy Recovery and ICU</del>				
<b>Hotels, motels, resorts and dormitories</b>				
Multipurpose assembly				
bathrooms/toilets-private <i>g</i>				

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.

**408.7.4 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.

## 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 3008.5.1 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:**

<b>ROOM OR AREA</b>	<b>SEPARATION AND/OR PROTECTION</b>
<u>Laboratories, and vocational shops not classified as group H, located in a Group E or Group I-2 occupancy.</u>	1 hour or provide automatic extinguishing system
<u>Laboratories, physical plant maintenance and repair shops, not classified as group H, located in a Group I-2 occupancy.</u>	1 hour
<u>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.</u>	1 hour and provide an automatic sprinkler system
<u>Flammable Gas Storage Rooms and Flammable Liquid Storage Rooms not classified as Group H in a Group I-2 occupancy.</u>	2 hours
<u>Piped oxygen tank supply rooms not classified as Group H in a Group I-2 occupancy <sup>a</sup>.</u>	1 hour
<u>Storage rooms for combustible materials greater than 100 square feet in a Group I-2 occupancy</u>	1 hour
<u>Gift Shops and their associated storage greater than 500 square feet in a Group I-2 occupancy</u>	1 hour

<sup>a</sup> – 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 2<sup>nd</sup> section. The first sentence deals with electrical equipments. The 2<sup>nd</sup> 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:

**At AHC Mtg #3, a revised proposal was considered. The following is the revised proposal with revisions in red. See the original WG report for the original proposal.**

**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 by relocation 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 ~~er~~ 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.

**Section 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.

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

1. Locations where patients are located who are rendered incapable of self preservation
2. Maximum number of 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.

~~**Section 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.~~

~~**Section 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.

**Section 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.

**Section 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 ~~occupant evacuation~~ elevators ~~utilized for patient movement in accordance with the fire safety plan,~~ if provided.

~~**Section 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.~~

~~**Section 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.~~

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

**Exceptions:**

1. Drills are not required to comply with the time requirements of Section 405.4.
2. The movement of patients to safe areas or to the exterior of the building is not required.
3. 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.

**Notes:**

- **Add to 404.3.2 fire rated walls/construction and smoke compartments**
- **Add under general - fire service access elevator, occupant evacuation elevator, sized for stretcher/beds**
- **Back to Fire Safety Committee**

**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.

**ADDITIONAL ISSUES TO BE BROUGHT TO AHC ATTENTION**

None at this time.

**WG PROGRESS ASSESSMENT**

The Fire/Fire Safety Work Group has had a total of 12 teleconference calls --- every Thursday at 10:00 AM EDT, from May 12 through August 4, 2011. Here is a summary of those calls and the FSWG member and interested party attendance:

The FSWG progress has shown fairly steady improvement over the 12 teleconferences to date. With the review and direction provided at AHC Meeting #2, things started moving along and the WG appears to have found its pace.

WG member and interested party participation has been constructive. John Williams, the AHC chair and Jeff O'Neill, the AHC Vice-chair, have continued to participate in many of the teleconferences of this and the other WG's which has assisted in keeping the work group on track by providing some "big picture" insights and background information.

As seen in the report, several issues have come to a tentative conclusion with prepared code change proposals ready for review and approval by the AHC and the others are well on their way toward completion. An issue that has caused some slowing in progress on Issue #5 is that the task group is still awaiting data and technical reports on smoke transmission through ceilings from ASHE. If the current pace continues, the FSWG should be able to complete all assigned tasks as planned and needed.