AHC #2 Meeting Minutes - Appendix D

GENERAL WORK GROUP REPORT & NOTES FROM AHC #2
(IBC Chapters 3-6, 12, 13, 27 - 34)

This appendix is based on the AHC's review of the noted Work Group Report at AHC Meeting #2. Notes from the meeting are indicated in red.

PART I: CURRENT CODE ISSUES:

TOPIC #1:

Ambulatory Care. (Sharon Myers) Generally there was concern during previous meetings as to whether ambulatory healthcare facilities are appropriate to remain as a Group B occupancy with special provisions in Section 422 or if it needed to be considered as an I-2 occupancy. There was extensive discussions related to the following issues

- **Definition.** This definition can include a little as one person receiving care that are rendered incapable. This definition was felt to be sufficiently inclusive.

  > **AMBULATORY CARE FACILITY.** Buildings or portions thereof used to provide medical, surgical, psychiatric, nursing or similar care on less than 24 hour basis to individuals who are rendered incapable of self preservation by the services provided.

- **Separation requirements.** IBC Currently requires 1 hour fire partition from adjacent tenants.
- **Sprinkler and fire alarm provisions.** Note that the sprinkler provisions have changed from the fire area concept to instead sprinklering the entire floor from the 2009 to the 2012 edition.
- **Existing buildings and mixed used.** Section 422 seemed to be a better fit for implementing into existing buildings and mixed use based upon how the requirements were designed. Smoke compartments and other relevant safety features were still provided but flexibility in design was afforded.
- **Size concerns.** There was some concern that such facilities would be too extensive perhaps there should be a size limit. It was noted that the smoke compartment requirements and all the safety requirements would continue to apply so there was not an increase in hazard. [Comments were made that the size of the facilities would not become ***extremely large facilities*** *because it would not be economically feasible to run and would not likely be constructed as Ambulatory care facilities.]*

TOPIC #1 Conclusions:

- Provisions for Ambulatory healthcare provided in Section 422 of the IBC were sufficient and classification as a Group I-2 occupancy did not seem necessary.
- In addition it was felt that Section 422 was more flexible for mixed use and existing buildings than the requirements in Section 407.
- Life Safety issues seem adequately addressed and consistent with CMS guidelines.
- No further action necessary.

Notes:

- Agree with conclusion for ambulatory health care
- Ambulatory surgery centers and dialysis centers are licensed and therefore have additional concerns
- If this care area is required to be separated, should it have a separate mechanical system, redundant power, etc.?

TOPIC #2

Defend in place (David Howard, John Williams)

The topic of defend in placed was raised due to a concern that it is a concept not well addressed in the I-Codes currently. The IBC provides the necessary tools to undertake this strategy in the form of smoke compartments separated by smoke barriers, quick response sprinklers, refuge areas, corridor requirements, fire alarm systems and several other related construction requirements. Building evacuation is not an appropriate strategy for these facilities and clarification within the code is necessary.

Evacuation strategies are not mandated for any type of building within the code so the best solution was to provide a definition of "defend in place" that could be referenced. Additionally, direction needed to be provided to the Fire Safety WG on possible provisions in Chapter 4 of the IFC. Chapter 4 of the IFC deals specifically with fire safety and evacuation planning. The topic of defend in place includes both Group I-2 occupancies and ambulatory care facilities.

TOPIC #2 Conclusions:
The following recommendations were passed along to Firesafety group regarding what should be addressed in a fire safety plan

- **Occupant condition**
- **Maximum number of people incapable of self preservation at any one time**
- **Defend in place or evacuation plan**
- **Assessment of existing building means of egress as it relates to the above.**

The general WG is also considering adding a provision to require submission of a fire safety plan during the permitting process. Note that section 1001.4 of the IBC and IFC already require the fire safety and evacuation plan be provided.

In addition to the above conclusions a definition was drafted for inclusion into the IBC and IFC for the terms "defend in place". It is understood that the term needs to be used within the code to be defined so it is anticipated that language would be included in 407 and 422 to reference the firesafety plan and the term "defend in place" The draft definition is as follows:

DEFEND IN PLACE. A method of emergency response that relies on the action of designated ~~occupants~~ staff and building components to ensure occupant safety during a fire that does not evacuate occupants from the building. Emergency response ~~may~~ involves remaining in place or relocating within or a both in the building without evacuating the building. Defend in place methods shall be described in the fire evacuation plan as described in International Fire Code Section 40x.x.

Notes:

- Use term in fire plan.
- Add term in 407, 422 and 1025 to establish what is involved for defend-in-place.
- Develop substantiation/reason.

TOPIC #3
Size of compartments (Enrique Unanue).
The focus of this issue is whether the current smoke compartment sizes are sufficient. It was pointed out that the current smoke compartment size of 22,500 sq feet simply came from the square of the 150 foot travel distance at the time the concept was developed. There were possible concerns with the current size related to the possible limitations imposed upon large ICUs. There was also a concern with smoke dampers and the inconveniences and added expense with limited benefit they provided when the HVAC system is fully ducted. ASHE was currently researching the smoke compartment size at the time of the 1st Ad Hoc meeting.

After extensive discussion there was not a large concern for smoke compartment size but instead the area of concerns seems to be more focused upon suite size limitations. Suite size is being addressed by the MOE WG. Without further concerns there did not seem to be a need to change the smoke compartment size limitations but two other issues were currently being addressed to make current smoke compartment more effective.

TOPIC #3 Conclusions:

The currently mandated smoke compartment sizes appeared appropriate unless more data or concerns were provided to the WG to make changes. However it was noted that the MOE WG is dealing with suite size where there does appear to be some size limitation problems. Two issues did surface from this group including the exemption of smoke dampers in fully ducted systems and prevention of unusable smoke compartments due to small size in ambulatory care facilities.

Smoke dampers. The following is a proposal developed for discussion and is based on language used for fire barriers to be consistent. The issue is to exempt smoke dampers in smoke barriers where the systems are fully

ducted.

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. 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. [Smoke compartments are required to be sprinklered throughout in accordance with Section 903.3.1.1.]

Note: This last part in brackets is something that needs to be discussed in more detail as to whether this should be proposed in code text language. Also this topic of smoke dampers is also being addressed by the firesafety WG and correlation of these efforts is necessary.

Note that the 2009 & 2012 IFC retroactively requires sprinklers in any I-2 Fire area and the entire floor where the I-2 is located. The sprinklers are required to be provided from that floor to the level of exit discharge. Some debate with the above proposed exception as to whether new construction requirements should address sprinkler requirements for existing buildings that may not be sprinklered in accordance with the IBC or IFC.

The following is a summary of why NFPA 101 has eliminated smoke dampers in fully ducted systems from smoke barriers:

1. Healthcare is a highly compartmented occupancy. These compartments include:
   a. Patient rooms
   b. Treatment rooms
   c. Suites
   d. Hazardous area rooms
   e. Corridor walls the resist the passage of smoke
   f. Smoke barrier walls
   g. Stair enclosures walls
   h. Shaft enclosures walls

2. Quick response sprinklers are required in the patient sleeping areas

3. The intent of LSC is to protect the person not intimate with a fire and improve the chances of survival of person intimate with the fire.
   a. Smoke dampers are not an issue for person intimate with a fire.
   b. Current fire records are showing smoke movement as a minimal effect in fully sprinklered healthcare buildings.

4. Quick response sprinklers and normal response sprinkler when activated:
   a. Reduce the temperature in the area of fire origin.
   b. Reduce the smoke generation rates by slowing the combustion or extinguishing the fire
   c. Cause the smoke and products of combustion to mix with the room air and become less buoyant.
   d. Less energy in the products of combustion means less movement of the smoke.

5. The LSC Technical Committee in 1991 felt this was adequate justification to remove smoke damper from the requirements of smoke barrier. Based on the items above significant amounts of smoke would not be transferred through a fully ducted system in amounts that would endanger persons not intimate with the fire.

Small smoke compartments. The following proposal was submitted by Rick Kabele for consideration of the concern of unusually small smoke compartments which could not accommodate relocation from the adjacent smoke compartment. Some concern that this was not a large issue but the concept had some merit. See proposal as follows:

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

Note for future reference for existing facility requirements:
Number of smoke zones for ambulatory facilities less than 5000 square feet (NFPA 101 has exception for facilities less than 5000 square feet when detection is provided throughout) space is not required to be subdivided. Note IEBC change of occupancy would require compliance with special occupancy provisions for Ambulatory Care Facilities (Section 1002.1).

Notes:

- Trying to allow for larger nursing units because the occupant load has not changed, but the movement to single bed rooms has resulted larger square footage areas.
- Need substantiation – operations, nursing care, increase in square footage per patient, negative impact on 2 smoke compartments within a unit vs. floor.
- Look at smoke compartment size in three legacy codes – where did the 22,500 come from?
- Perhaps suites on ground level with specific uses – ex: emergency rooms, radiology suites
- Use information on fires and extent to show if the issue is room containment vs. smoke compartment
- Investigate life safety attributes and show how they will be effected by a larger smoke compartment size.
- Proposal for 717.5.5
    - System requirements proposed are too restrictive
    - Look at requirements for breach through the barrier
    - Fully ducted system should be robust, but not all steel
    - Need substantiation for NFPA removal of smoke dampers
    - Substantiation should include the multiple improvements in health care, not just sprinklers (i.e., redundancy in protection, regular inspections, staff training)
    - Limit the proposal to Group I-2 hospitals, not all Group I-2
    - Should look at this for ambulatory care and ambulatory surgery centers
- For smoke compartments – refer to discussion in Item 1

TOPIC #4
Use of facilities during renovations (Brad Pollit).
Discussed this issue and the primary focus was on Chapter 33 of the IFC and IBC. Many of the issues are fire related and thus being addressed by the Firesafety group. Some discussion on how these chapters might work with fire safety and evacuation plans.

TOPIC #4 Conclusions:
More work is needed on the fire safety and evacuation plans to perhaps generate language that would work with those provisions in Chapter 33 of the IBC. Of primary concern is how the defend in place strategies and general fire protection will function during construction/alterations. Some issues also related to HVAC shut down during construction.

Notes:

- Look at how the construction affects the following:
  - Maintain egress
  - Maintain positive/negative pressure between the construction area and the occupied area
  - Fire protection of area if sprinkler system is taken off line
- More information will be provided by ASHE and facilities people

TOPIC #5
Hazardous materials locations (Sharon Myers).
The only concerns were possibly related to difficultly in meeting MAQ limitations on upper floors for labs and portable oxygen. The specific concerns were unclear and further direction is needed.

TOPIC #5 Conclusions:
More direction, if any, is needed as to the particular concern with this topic in order to develop possible proposals to correct problems. **No resolution at this time based upon the need for additional feedback.**

Note:

- Hand off to Fire Safety

TOPIC#6
Incidental use areas.
This issue was discussed and more feedback is necessary from the Adhoc committee. Currently the table addresses "waste and linen collection rooms" of any size in Group I-2 and Ambulatory care facilities. These rooms are to be separated by one hour fire barriers.

TOPIC #6 Conclusions:
Need more feedback but the WG did generate the following questions for discussion as possible areas of concern.

1. Perhaps a minimum size is necessary?
2. Only addresses waste and collection of linens – should it deal with storage of clean linens and storage in general?
3. Would the general storage requirements elsewhere in the I-Codes be considered sufficient and no changes are needed here?

No resolution at this time based upon the need for additional feedback.

Note:

- Hand off to Fire Safety, Item #11

TOPIC #7
SEISMIC REQUIREMENTS & EXISTING BUILDINGS. This was placed in the parking lot initially due to the fact that existing building requirements were being dealt with later in the process. Generally seismic is dealt with in Chapter 34 and the IEBC throughout.

TOPIC #7 CONCLUSIONS. Topic is on hold for future assignment & currently in the 'parking lot' given the majority of issues are related to existing facilities. See Part II New code issues

Note:

- Move to parking lot since this deals with existing buildings

TOPIC #8
Smoke compartment alternative/tradeoff for fully suppressed buildings. (Bill Koffel and Sharon Myers/John Williams).
This issue was related to allowing sprinkler modifications for issues other than building construction type in existing buildings that are not fully sprinklered. Bill Koffel explained the concept and will be assembling draft code language to address these possible allowances. Note that the IFC requires retroactive sprinkler requirements for group I-2 by fire

area, throughout the floor where the I-2 is located and all floors between the Group I-2 occupancy and the level of exit discharge. Therefore the only portions of a building that would be permitted to be unsprinklered would be above the existing Group I-2 occupancy.

TOPIC #8 Conclusions:
In process; no conclusions or recommendations to date.

Notes:

- Provide direction on when the building is not fully sprinklered, but other trade offs can be permitted.
- Allowances for trade offs could be based on
  - smoke compartments,
  - fire areas,
  - floor of renovation and all floors below sprinklered
  - building

PART II: NEW CODE ISSUES:

1. **Mixed Use and accessory occupancy provisions.** During our May 17th call this issue came to light that perhaps the requirements for non separated mixed use may not be satisfactory in addressing ambulatory care facilities and Group I-2 occupancies. Section 508.3.1 does not reference Sections 407 and 422 in the same way the high rise building requirements are referenced. This was placed on our list but after discussion realized that the bulk of the issues were in Chapter 9 which is already clearly addressed by Section 508.3.1.

   Based upon discussion there was still a need to address egress as it applies in a mixed occupancy building. This may be a larger problem in existing buildings where ambulatory care facilities are being constructed with many other uses. This issue with egress is an issue for both non separated and separated mixed use occupancies.

   Emergency rooms were also a topic of discussion as it relates to mixed occupancy and accessory occupancy. Some question as to whether they were accessory to the I-2? Also when they separate through fire resistance rated construction what the occupancy classification would be. Generally such facilities whether standalone or separated from an I-2 with fire resistance rated construction would be considered as an Ambulatory care facility.

   Conclusion: Section 508 is appropriate as written but perhaps specific requirements in Section 407 and 422 dealing with egress in mixed occupancy buildings is necessary. More work is needed to develop this concept. May mean possible pointer Sections in Sections 407 and 422 with technical provisions in chapter 10.

   The treatment of emergency rooms in I-2 with regard to mixed use buildings or as accessory occupancies needs to be clarified. In addition the classification of the occupancy type in general needs to be clarified when they are standalone facilities.

Notes:

- Look at where paths for patient egress relies on moving through areas that are not patient areas, such as office/support areas. Include if those areas would serve as refuge areas for the patients. Possibility of one way patient movement in corridor.
- How should free standing emergency centers be regulated – Group I-2 or B.

2. **Existing building issues.** Seismic requirements in existing buildings were initially part of our list but placed in the parking lot to defer existing building issues until later in the process. This item expands the existing building issues beyond simply seismic. The intention is that the General WG review the CMS survey to see if there are any relevant changes that the General WG should address with the development of code changes. Seismic issues as initially noted in the work plan will also be addressed. **This issue had not been addressed at this time.**

Note:

- See discussion throughout report.

- Sound transmission & acoustical requirements

Note:
- Support requirements in the Guidelines regarding acoustic requirements
- Internal and external noises
- Only want to address physical construction requirements, not licensure requirements

PART III: WG CROSS OVER ISSUES:

1. **Defend in place.** Defend in place concern communicated to the Fire safety work group. See notes under Topic #2 "defend in place" above.
2. **Smoke Dampers.** See Topic #4 for smoke damper information; code language drafts.
3. **Egress Issues For Healthcare Occupancies.** Occupancy B & I-2. See Part II (New Code Issues) Item 1.
4. **Smoke Compartment size.** Related to work by MOE WG with their investigations on Suite Sizes; also see narrative under Topic #3 in this report.

PART IV: FURTHER RESEARCH ISSUES:

1. **OCC LOAD FACTORS (Topic #1, Subsection C., AMBULATORY HEALTHCARE FACILITIES)** Request data gathering from Doug and ASHE. ASHE documentation request to have this move forward under ASHE to develop data and technical size justifications for raising/lowering occupancy loads for specific use areas.

Note:
- Ambulatory care facility would use outpatient areas – 100 sq.ft. per occupant
- Remove

2. **OCC LOAD FACTORS (Topic #1, Subsection D., WITHIN I-2 HOSPITAL FACILITIES)** Request data gathering from Doug and ASHE. ASHE documentation request to have this move forward under ASHE to develop data and technical size justifications for raising/lowering occupancy loads for specific use areas.

Note:
- Existing numbers acceptable
- Remove

3. **COMPARTMENT SIZE.** Size of compartments and how big do they actually need to be and the need for the additional size requirements play in of the size of rooms compared with previous and current codes and past/present/future equipment requirements for care within the rooms. Reference to general topic #8. B.

Note:
- See discussions above

4. **INCIDENTAL USE AREAS.** Larger storage rooms; notations from phone conferences question whether ASHE data or information can be obtained to determine if there are size/quantity issues and limitations and what the current needs are for efficient and necessary care support.

Note:
- Are incidental areas large enough?
- No specific information needed at this time.

PART VI: OUT-OF-SCOPE ISSUES:

Independent Emergency rooms/Emergency Healthcare facilities.

An issue was discussed during several conference calls regarding emergency rooms that are independent of the Group I-2 occupancy or separated from the Group I-2. It was noted that these facilities would either still be classified as I-2 or be classified as a Group B Ambulatory Care Facility; both classifications have been occurring across the country. Such facilities would not simply be considered Group B occupancies unless they were very small. The concern seemed to have more to do with licensing requirements; thus is outside the scope of this group.

Note that there is still some discussion in the mixed occupancy/ accessory occupancy requirements as to how these facilities, whether stand alone or in conjunction with a hospital, are classified (separated or non separated).

Statements were made by some workgroup members that this is possibly just one of many healthcare uses that may have individualized issues and/or requirements; however, given the rapidly increasing prevalence for the development of this type of facility, the General WG recommends that additional discussion, investigation and research is necessary to determine if possible code language would be advisable and emergency care facilities and requirements should be reviewed.

Note:

- Should free-standing emergency departments be considered a general doctor's office (Group B), an Ambulatory Care Center (Group B with protection) or a hospital (Group I-2)?
- The 24 hours is based on patient stay, not the fact that the facility might be open 24 hours a day.
- If licensure or risk category would require different systems – redundant power, separate mechanical systems, etc. – that should be addressed.
- Description of an urgent care facilities vs. an emergency care facility.
- Emergency care is an extension of a hospital.
- Urgent care is most likely an ambulatory care center.
- Let the licensure issues be addressed by the individual states.
- Add this issue to the Parking Lot.

PART VII: ADDITIONAL ISSUES TO BE BROUGHT TO AHC ATTENTION
Two issues for discussion

1. **Existing buildings. EXISTING BUILDING ISSUE WILL UNCOVER additional issues as will: & ISSUES IN 5&6 ABOVE.**

2. **Code development process and code change proposal substantiation (Sharon Myers)***:*

   A. *COMMENT:*
   It's understood that the2000 Edition of NFPA 101 is referenced due to licensure enforcement standards; however, the more recent standard development is relevant and, in my opinion, should carry more weight in our comparison and investigative processes.

   Just as we rely on our the ICC codes to improve over time by experience, wisdom, technology, comments and input, the reliance on a version of NFPA 101 that is a least 2 if not 3 full development cycles behind the current standard is an oversight at best.

   B. *OBSERVATION:*
   In a number of discussions, there are references to the 'newer' more recent standard to eliminate or be more liberal; however, when the new standard requirements are more stringent, there are comments that the 2000 edition requirements are more applicable and are what is required by licensure/accreditation.

   The changes that we are proposing, if successful, will be for the 2015 ICC Codes; therefore, the appropriate attention for consistency should be to the 2012 NFPA 101 and the most recent editions of the applicable referenced standards.

PART VIII: WG PROGRESS ASSESSMENT:
Progress is gaining momentum. The Adhoc General WG has had **7** calls all approximately 1 hour and 45 minutes in duration.

Participation has been decent though often we get caught up in issues that are not code related or that stray from the agenda. For instance how a building is maintained (in terms of responsibility or agreements between tenants and landlord) is not a building code issue, but the discussion has lead to identifying related code requirements and/or cross over issues.

The tools exist to address much of the maintenance issues noted during those discussions within the IFC already. More specifically the fire code in chapter 9 for fire protection requirements has many requirements related to maintaining fire

protection systems and dealing with systems out of service for example.

Based upon work completed thus far the WG is probably 1/3 of the way through the process.