ICC CODE TECHNOLOGY COMMITTEE

BALANCED FIRE PROTECTION – HEIGHT & AREA STUDY GROUP MEETING #1

DRAFT MINUTES

Hilton Kansas City Airport
8801 NW 112th Street
Kansas City, MO 64153
(816) 891-8900

Saturday, October 21: 8:00 a.m. – 3:00 p.m.

1.0 Welcome and introductions – Co-chairs Collins and Dargan

1.1 Call to order; introductions; welcoming remarks

The meeting was called to order at 8:10 am on October 21st, welcoming those in attendance. Self introductions were made.

Voting members present: Carl Baldassarra, Laura Blaul, Dave Collins (Co-chair), Kate Dargan (Co-chair), Dave Frable, Sam Francis, Jim Messersmith, Jim Narva, Ron Nickson, Larry Perry, Dennis Richardson, Emory Rodgers, Jerry Sanzone (late), Rick Thornberry, Robert Wills

Non voting members present: Paul Myers, Jon Siu

Members absent: Sean DeCrane (non voting)

Staff liaison: Mike Pfeiffer

Attendees: A list of attendees is provided at the end of these minutes.

2.0 Goals and objectives

The co-chairs outlined the goals of the effort:

- Identification of the effected interests
- Identification of the height and areas issues/areas of concern
- Within a span of 4 meetings, some level of consensus must be realized if the effort is to put forth a public comment by the January 24, 2007 deadline

With that, there was a general discussion on how best to achieve consensus and how the process will define consensus. Consensus can be achieved in different ways. Some view consensus as a majority vote. Some view consensus as unanimity. Some view consensus as general agreement. The mechanism for achieving some level of consensus will be determined at future meetings.

3.0 Welcoming exercise

A welcoming exercise was performed. Committee members paired off and got to know each other, prompted by some questions. This was followed by the pair of committee members then introducing their partner to the group.

4.0 Committee alternates

It was noted that the use of committee member alternates was discouraged. The effort requires a commitment from all the parties. Use of alternates leads to potential inefficiencies as the alternate in attendance may not have been privy to previous discussions, necessitating repetition and revisiting issues.

5.0 IBC draft development history

Paul Myers, the vice-chair of the 1996 Occupancy committee at the time, provided a history of the development of the height and area provisions which were drafted and placed in the IBC Working Draft (May 1997) and ultimately were included in the 2000 IBC. Questions arose as to who was on the committee.

Staff note: A review of the Occupancy roster yielded the following as members on the committee:

Dan Chudy, Riverside, Ca (Chair)
Paul Myers, Cincinnati, OH (Vice Chair)
Gregori Anderson, Chatham County, GA
Ron Estepp, Hillsborough Township, NJ
Lon Fairless, Carrolton, TX
Jeff Feid, Normal, IL
Gerry George, Central City, CO
Ken Greene, Birmingham, AL
Chris Sanidas, Orange County, FL

Paul noted the following:

- Goal was to develop H & A provisions that would not cause an existing building built under one of the legacy codes to become non-compliant as far as height and area under the new code.
- There were complications in the development as the three legacy codes were different in terms of how they addressed modifications to the base height and area in the codes. It was agreed to use the BCMC formula.
  Staff note: The Board for the Coordination of Model Codes (BCMC) was an effort that started in 1975. The make-up was members from BOCA, ICBO, SBCCI and NFPA. The objective being to develop a set of uniform requirements for a given subject matter which would then be submitted to the respective legacy code groups in their respective code development process in an effort to achieve uniformity of provisions for select subject matters across legacy code lines. The height and area report of BCMC was finished in February/1988. BCMC concluded its activities in 1995 with the onset of the I-Code development process.
- During development, anomalies were identified in the table based on occupancy and type of construction (TOC). They were reconciled by looking at the

respective occupancy and TOC and changes were made in an effort to reconcile the relationships.

- There has not been any identification of known problems with the H & A of existing buildings built to the legacy codes, upon which the drafting committee developed its recommendations.
- During the subsequent code change processes, after the original provisions were placed in the IBC Working Draft (May 1997), a code change was submitted to correct an anomaly relative to single story buildings which would have had a reduction an area when compared to the legacy codes. This was coined the "3X" rule. *Staff note: The code change was O272-99.*

Members of the committee offered the following comments in response:

- Non-conforming existing buildings are created routinely as a result of the code change process for all subjects.
- The IBC allows a 5 story; 260, 000 sq. ft, sprinklered Type 2B office building which viewed as excessive when compared to at least one of the legacy codes.
- The legacy code update process had the benefit of the development being part of a system philosophy that had been in-place for years and was embraced by the respective memberships. The IBC was developed on a piece meal approach by taking different provisions and combining them.

6.0 Other H & A development

NFPA 5000. Notable comments:

- They tried a "clean sheet of paper approach". Time constraints did not allow for the effort to be completed so they used H & A values from the IBC, except where NFPA 101 had specific provisions.
- An alternate approach based on compartmentation was developed and placed in the annex. There was not a high level of confidence in this approach

It was noted that the H &A issue has had a long history, namely:

- Individual legacy codes
- BCMC
- IBC drafting
- NFPA 5000
- Current IBC code change process
- The current effort by the BFP H &A Study Group

7.0 Committee round table discussion

The co-chairs asked that each member of the committee identify why they are participating in the effort and what are their concerns.

Staff note: The following are the raw comments noted by staff as the committee members spoke in-turn around the table.

- CA adoption. Looked at B occupancy. Compared to the UBC, the IBC allows a much larger building than UBC. Focused on modifiers to H&A table and not the table. Solicited input from the fire fighting (FF) community and impact on FF safety. Analysis looked at it holistically, including issueslike smoke migration

- Current IBC allows bldgs that could be built under at least one of the legacy codes
- BCMC report was not adopted by any of the legacy codes so there is no data on in-place construction performance of BCMC H & A
- Does current IBC result in increased risk?
- VA adoption. Active in process at national level. Concerns with a few of the numbers for H&A – big box retail; institutional. IBC provides needed flexibility.
- CA- need to minimize # of state amendments while maintaining safety. Considerable discussion of H & A. IBC more restrictive for some single story buildings. Concern is with taller buildings, such as 5 story sprinklered office building. Concern with sprinkler response to seismic event and the impact on water supply to the bldg which is not rated.
- The 5 story bldg noted above was permitted in SBC
- Like to see data of as-builts and performance of same – especially taller bldgs. Impact on FF capability.
- Concern of balanced fire protection (BFP) in the I-codes; trade-offs (ups). Can't overly rely on active and/or passive protection
- Legacy code systems worked, there was confidence in the requirements. Take that and meld into one code- what's an acceptable level of performance? UBC more restrictive than other 2. How to justify the IBC when compared to UBC?
- Reasonable compromises came out of CA adoption process. CA went thru process similar to Phoenix. CA re-wrote Ch 5 from NFPA 5000 based on UBC, politics came into play, ultimately CA adopted IBC
- Members of the Study Group represent specific industries and they need to answer to their respective industries.
- Need data to support change
- Relationship of H&A to life safety. Is it a life safety or property protection issue or a combination of both?
- Cost of construction and impact on life safety. Wide range of costs from east to west; north to south. Are buildings in some areas safer than others based on the legacy codes?
- Are fuel loads in buildings today similar to those when the original H&A in the legacy codes were developed?
- Need to minimize FL amendments. Code needs to meet the needs of the population. How does a hurricane impact the power supply and sprinkler performance?
- Some view this as an industry driven battle. Not everyone is going to be happy
- Where is the H&A broke?
- What's the response from jurisdictions who have adopted the IBC – not just H&A but the bldg as a system. IBC allows bigger buildings but what are the compensating features, if any?
- Not going to find a true scientific rationale
- Legacy turf battle at first in IBC drafting. Members originally wanted <u>their</u> code provisions in the new code. This evolved to looking to create the best they could – in terms of cost-effective and safe
- Safety is not just H&A..ie apartments have 1 hour compartments
- 13 versus 13R trade-offs
- How's the H & A fire records? Are there any?
- Need to make sure we look at it from the FF's perspective
- Regional influences stemming from legacy codes – each had different philosophies

- The in-place construction based on the legacy codes is a working laboratory – are there problems with these buildings?
- Short term – consensus on the 28 code changes
- Long term – contemporary/comprehensive study of the issue
- What's the appropriate level of safety we are looking to achieve?
- 1980's Schirmer study for Dallas to off-set sprinkler costs. Height impacts life safety, not area. Relationship of size of building with FF capabilities.
- Bldgs today under 2006 IBC have enhanced level of protection over legacy codes – it's a system approach, not just H&A
- Different is not better or worse
- There are other code issues foreign to some legacy jurisdictions, ie 2 floors open to each other has been ok in some codes and not others. It's not just a H&A issue
- Seattle amendment allows an additional story in Type 5A (5 stories); but no increase in height in feet
- Concerns with size of bldgs of 2A, 3A and 5A TOC
- Need wood diaphragms in high seismic – what's the impact on TOC and H & A?
- B occupancy laboratories are typically Type 5 - need to allow taller buildings
- How do pedestal buildings come into they play relative to H&A?
- Tall pedestal buildings of Type 5/unprotected steel. Impact on the FF going into the bldg?
- This has been a well worn path. Hopefully this effort will put this issue to rest.
- CA H&A conclusions were brought forth to the IBC via the code change process
- Foster fire service involvement in the ICC process
- Impact of the combined input from the fire and bldg officials on the process?
- Other issues out there/need to build relationships
- Long term – improve fire safety of built environment
- Long term – id acceptable level of risk
- Long term – dbase of records to be used going forward to support future change
- Long term – impact on the future of ICC codes
- Large travel distances
- ISO data may be useful
- Different types of safety issues: Structural safety; property protection; life safety
- Holistic approach of systems: H&A, travel distance, active fire protection, passive fire protection
- Reliability of active and passive fire protection during events such as seismic
- Availability of relevant data relative to H&A – not much

8.0 Future meetings

Meeting #2: November 16 - 17, 2006: Chicago; Hilton Garden Inn - O'Hare
Nov 16th : 8 am – 5 pm; Nov 17th: 8 am – 4 pm (No CTC)

Meeting #3: December 11 – 12, 2006; Phoenix; Wyndham Phoenix
Dec 11th: 8 am – 5 pm; Dec 12th: 8 am – 5 pm (CTC meets December 13th)

Meeting #4: January 3 – 4, 2007: Orange County, CA: Location TBD
Jan 3rd: 8 am – 5 pm; Jan 4th: 8 am – 5 pm (CTC meets January 5th)

9.0 Adjourn

The meeting was adjourned at 3:00 pm on October 21st.

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List of Attendees

Jason Thompson	**Masonry Alliance for Codes and Standards**
Gregory Keith	**The Boeing Company**
Thom Zaremba	**Fire Rated Glazing Industry**
Jerry Razwick	**Technical Glass Products**
Katie Flower	**DHI**
Paul Heilstedt	**Self**
Mike Fischer	**WDMA, BHMA and Door Safety Council**
Tom Frost	**ICC**
Michael Pokorny	**Montgomery County, MD**
Richard Schulte	**Schulte & Assoc.**
Jeffery Tubbs	**Arup Fire**
Carl Wren	**Austin Texas Fire Dept./IAFC**
Jeri Morey	**Jeri Morey Archt.**
Kevin Kelly	**NFSA**
Gene Endthoff	**Endthoff Consulting/NFSA**