

MEETING MINUTES

NFPA High-Rise Building Safety Advisory Committee (HRB-SAC)

March 22-23, 2006
Grand Hyatt Tampa Bay
Tampa, FL

1. **Call to Order.** Chair Quiter called the meeting to order at 11:00 am. From 8:30 AM until 11:00 AM, HRB-SAC participated in a joint meeting with NFPA Standards Council. See agenda item 06-3-20 of the March 2006 Standards Council meeting minutes.
2. **Introduction of Members and Guests.** The following committee members were in attendance:

Name	Representing
James Quiter (chair)	Arup
Richard Bukowski	National Institute of Standards and Technology – Building and Fire Research Laboratory
Geoff Craighead	Securitas Security Services USA, Inc.
Jon Magnusson	Magnusson Klemencic Associates / National Council of Structural Engineering Associations
John Miller	Los Angeles City Fire Department / International Association of Fire Fighters
Jack Murphy	JJM & Associates, LLC / Fire Safety Directors Association of Greater New York
Steven Nilles	Goettsch Partners/ Council on Tall Buildings & Urban Habitat
Jake Pauls	Jake Pauls Consulting Services on Building Use and Safety / American Public Health Association
Wes Shoemaker	Winnipeg Fire Paramedic Service / Metropolitan Fire Chiefs
Milosh Puchovsky (non-voting staff liaison)	NFPA

The following committee members were not in attendance:

Name	Representing
Sally Regenhard	The Skyscraper Safety Campaign

The following guests were also in attendance:

Name	Representing
Gary Keith	NFPA (day 1 only)
Nancy McNabb	NFPA
Nadine Post	Engineering News Record (Press)
Robert Solomon	NFPA

3. **Approval of October 20-21, 2005 meeting minutes.** The minutes were approved without modification.
4. **Review meeting schedule and key dates.** The committee reviewed key dates as indicated Agenda Attachment C.
5. **Review of HRB-SAC policy positions.** Members discussed the following points concerning their views on high rise building safety, and agreed on the following positions.
 - a. *Are hostile acts a hazard to be considered by building regulations?* HRB-SAC does not intend for building regulations to specifically address, through mandatory provisions, extreme events and other types of hostile acts. The exception to this position includes those types of hostile acts that fall within the scope of a document, i.e. a single fire source of the type anticipated by the regulation. The reference to non-mandatory guidance documents that help mitigate the effect of hostile acts is expected. As the topic of hostile acts and terrorism related hazards become more widely considered, HRB-SAC believes that building regulations should specifically indicate the degree to which they address hostile acts, or they specifically make clear that they do not. Where a particular regulations or documents addresses hostile acts, HRB-SAC advises that the specific type and magnitude of the threat be articulated.
 - b. *What type of egress strategies should be pursued?* It is the committee's position that phased evacuation and defend-in-place concepts serve as the primary means by which relocation and protection of high-rise building occupants occur in the majority of emergency situations. Total simultaneous evacuation of building occupants should generally serve as a fall-back or contingency option. The conditions and procedures under which a specific type of egress strategy is to occur should be better defined and presented. This includes the expansion of emergency procedures for building occupants, staff and emergency responders.
 - c. *Is it the committee's intent to improve safety in high-rise buildings, or to better define what the appropriate level of safety should be?* The committee believes that the level of safety currently provided for high-rise buildings has been effective for the types of hazards considered by building regulations, but that code provisions should be reviewed when considering the widening range of threats in conjunction with occupant

characteristics and capabilities. The committee believes that it is within its scope to recommend revisions as needed.

6. **Review results of HRB-SAC ballot on recommended priorities and agenda items for NFPA technical committees.** The ballot results as indicated in Agenda Attachment D were reviewed. It was agreed that the priority items should be forwarded as meeting agenda items to the technical committees responsible for the documents as noted. In addition to the NFPA committee projects noted, the committee directed NFPA staff to forward priority item 3 on closed circuit television to the Technical Committee on Premises Security which is responsible for NFPA 730 and NFPA 731. As part of this submittal to the technical committees, a copy of HRB-SAC's response to the NIST recommendations will also be provided.
7. **Address request from Building Code Development Committee (BCDC).** HRB-SAC reviewed the request as indicated in Agenda Attachment E. HRB-SAC generated comments to BCDC's response to NIST recommendation 6 as noted in **Minutes Attachment A**. It was also noted that HRB-SAC already addressed the other requests from BCDC regarding other NIST recommendations through its ballot on Recommended Priorities and Agenda Items for NFPA Technical Committees. See item 6 above.
8. **Address request regarding high rise ready rooms.** The committee addressed the request as indicated in Agenda Attachment F. It was noted that HRB-SAC already addressed this request through its ballot on Recommended Priorities and Agenda Items for NFPA Technical Committees, specifically items 1 and 14 of the ballot. See item 6 above.
9. **Address Availability of Fire Protection Research Foundation resources.** The committee addressed the availability of resources as indicated in Agenda Attachment G. See **Minutes Attachment B** for the committee's response.
10. **Consider recommendations for NFPA 1, NFPA 101, NFPA 5000 and other NFPA documents.** In addition to the items considered in agenda item 6 above, the committee recommends the following actions:
 - a. *Phased evacuation.* In connection with its action on item 5b above, the committee believes that the concept of phased evacuation should be made more evident in NFPA 101 and NFPA 5000. While provisions in NFPA 101 and NFPA 5000 pertaining to occupant notification (101:9.6.3.6.2, 5000:55.2.3.6.3 and associated annex material) address the concept of phased evacuation, the subject is not addressed in chapters 101:7 and 5000:11 on means of egress or section 101:11.8 and chapter 5000:33 on high rise buildings. The committee believes that the concept of phased evacuation should be better coordinated among chapters 7, 9 and 11 of NFPA 101 and chapters 11, 33 and 55 of NFPA 5000. An agenda item for consideration by the Safety to Life and Building Code committees will be developed.

11. **Update on NIBS activity.** Richard Bukowski provided an update on NIBA activities, and indicated NIBS has not yet developed specific proposals in response to NIST's WTC recommendations. It was indicated that NIBS invited NFPA to attend the May 2, 2006 meeting in Washington, D.C. to provide an update on the activities of HRB-SAC. Representatives from NFPA will be attending the meeting.

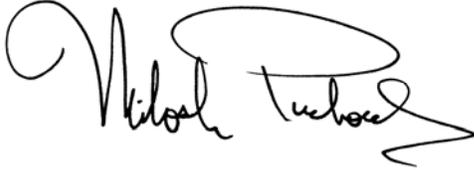
12. **Other Business.**

- a. *NIST Recommendation 1 on Progressive Collapse and NIST Recommendation 2 on Wind Tunnel Testing.* The committee understands that the American Society of Civil Engineers (ASCE) is addressing these two recommendations by either revising its current standards or developing new standards. The committee believes that the necessary expertise on the subject matter of progressive collapse and wind tunnel testing lies with ASCE and other structural engineering groups technical groups, and directed chair Quiter to communicate to NIST the committee's endorsement of ASCE's initiatives in this regard.
- b. *Refilling stations for self contained breathing apparatus.* Refilling stations for fire fighter self-contained breathing apparatus are being considered for installation in some jurisdictions. The committee understands that a lack of standardization regarding the design, installation, maintenance and operation of these high pressure systems as well as with the evaluation of system components currently exists. This presents significant safety concerns to fire fighter and building occupants. Although NFPA's Standards Council has asked IAPMO to begin addressing these concerns, the committee directed chair Quiter to communicate its concern to the Standards Council regarding these systems in high rise systems.
- c. *Emergency procedures.* The committee believes that additional resources regarding the development of emergency procedures for high-rise buildings are needed. The committee will work to draft text that could be used as guidance material for those responsible for drafting such procedures for their facilities. Emergency plans currently in effect in New York City and Los Angeles will be circulated to the committee. Chair Quiter directed committee members to review this material and prepare comments regarding the type of information that should be included in the guidance material. Committee member Jack Murphy was appointed as coordinator for this activity and is to provide a report to the committee at the next meeting. Comments regarding the emergency plan guidance material are to be submitted to NFPA staff by Friday, August 25, 2006.

13. **Scheduling of next meeting.** The next meeting was tentatively scheduled for Wednesday and Thursday, October 4-5, 2006 in Vancouver, British Columbia.

14. **Adjournment.** Chair Jim Quiter adjourned the meeting at 3:00 PM, Thursday, March 23, 2006.

Minutes prepared by

A handwritten signature in black ink, appearing to read "Milosh Puchovsky". The signature is fluid and cursive, with a large loop at the beginning and a long tail at the end.

Milosh Puchovsky, P.E.
Staff Liaison

Minutes Attachment A



National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

High-Rise Building Safety Advisory Committee
(HRB-SAC)

MEMORANDUM

TO: Ray Bizal, Staff Liaison – NFPA Building Code Development Committee (BCDC)

FROM: Milosh Puchovsky, Staff Liaison - NFPA High-Rise Building Safety Advisory Committee

DATE: April 25, 2006

SUBJECT: BCDC request regarding NIST WTC recommendations

This memo serves as HRB-SAC's response to BCDC's request regarding NIST's WTC recommendations as noted in your memo of February 21, 2006. HRB-SAC met on March 22 -23, 2006 and considered the request. The following action on BCDC's response to NIST Recommendation 6 was taken, and is currently being balloted. I will distribute the ballot results once completed.

Recommendation 6: HRB-SAC recommends the following revisions to BCDC's recommended proposal to NFPA 1.

Add a new section 12.3.2.3 to NFPA 1 as follows:

12.3.2.3. Readily accessible fire resistant assemblies in high-rise buildings shall be visually inspected for integrity as stipulated by the AHJ by an approved independent third party at least once every five years. A written report shall be submitted to the AHJ indicating the inspection result findings.

Substantiation: NIST WTC recommendation 6 addresses the importance of fire resistant assemblies in maintaining building structural integrity as a primary and redundant fire protection system. Loss of a small portion of the fire protection coatings or compromising of a rated assembly can dramatically impact the structural integrity of a building and the redundant fire protection features. Once installed, these assemblies must be maintained or the intended level of protection is lost. The proposed new section addresses NIST's recommendation and makes it clear that building materials are not intended to be removed or destroyed for the visual inspection to occur. The above language would also allow for the inspection of the entire building to be phased over a scheduled period of time.

As part of the proposal to NFPA 1, the BCDC may also wish to consider developing a definition of the term “readily accessible”. The current terms are currently defined by certain NFPA standards.

Accessible (as applied to wiring methods). Capable of being removed or exposed without damaging the building structure or finish, or not permanently closed in by the structure or finish of the building. (NFPA 70E)

Accessible (as applied to equipment). Admitting close approach; not guarded by locked doors, elevation, or other effective means. (NFPA 70E)

Accessible. Capable of being reached for inspection, maintenance, or removal without disturbing the permanent structure. (NFPA 1925)

Readily Accessible. Capable of being reached quickly for operation, renewal, or inspections, without requiring those to whom ready access is requisite to climb over or remove obstacles or to resort to portable ladders, etc. (NFPA 70)

Readily Accessible. Capable of being removed or exposed without damaging the equipment or system or the building structure or finish, or not permanently enclosed. (NFPA 33)

With regard to BCDC’s requests for the other NIST recommendations, HRB-SAC has already addressed these by developing recommended priorities and agenda items for certain NFPA Technical Committees. The recommended priorities and agenda items along with HRB-SAC’s ballot results are attached, and will be forwarded to the appropriate technical committees. With regard to HRB-SAC’s specific action on the NIST recommendations, the following priority items are pertinent.

Recommendation 14: HRB-SAC priority item 3

Recommendation 15: HRB-SAC priority items 3, 12 and 13

Recommendation 19: HRB-SAC priority items 12 and 13

Recommendation 22: HRB-SAC priority items 8, 9 and 10

Recommendation 23: HRB-SAC priority items 9, 10 and 13

Recommendation 24: HRB-SAC priority items 7, 8, 9, 10 and 11

Recommendation 26: HRB-SAC priority item 2

Encl. HRB-SAC final ballot results – February 22, 2006

C: M. Curtis, R. Solomon

Minutes Attachment B



National Fire Protection Association

1 Batterymarch Park, Quincy, MA 02169-7471
Phone: 617-770-3000 • Fax: 617-770-0700 • www.nfpa.org

High-Rise Building Safety Advisory Committee
(HRB-SAC)

MEMORANDUM

TO: Kathleen Almand, Executive Director – Fire Protection Research Foundation

FROM: Milosh Puchovsky, Staff Liaison - NFPA High-Rise Building Safety Advisory Committee

DATE: March 24, 2006

SUBJECT: Research Projects in Support of NFPA Codes and Standards Process

This memo is in response to the Research Foundation’s recent request for information on potential research projects that would benefit NFPA technical committee activities. At its March 22-23, 2006 meeting, the High-Rise Building Safety Advisory Committee (HRB-SAC) identified the following research activity.

One of the subject areas HRB-SAC is focusing on pertains to occupant evacuation and relocation strategies and procedures. To gain a better understanding of how building occupants might react to a fire and other emergency situations, as well as occupant’s understanding of the building’s life safety and egress features, a formal survey or similar study of building occupants is recommended. It is believed that building occupant perceptions of this subject have changed in recent years and that it needs to be revisited.

It is expected that the results of this study would be used to better assess the public’s perception and attitudes toward building safety, and their likely behavior during emergency situations. The results of the survey could also be used by NFPA technical committees and others in developing more appropriate occupant notification and communication strategies, building evacuation and relocation strategies, emergency responder strategies, and education programs and messages.

C: HRB-SAC membership
C. Grant, R. Solomon