MEETING MINUTES
High Rise Building Safety Advisory Committee

Renaissance Blackstone Chicago
May 13-14, 2014
Chicago, IL

1. Call to Order. The meeting was called to order by Acting Chair, Geoff Craighead, at 8:00 am CST on Tuesday, May 13, 2014 at the Renaissance Blackstone Chicago, Chicago, IL. Chair, Jim Quiter, was not in attendance due to travel delays.

2. Introduction of Attendees.

The following members were in attendance.

<table>
<thead>
<tr>
<th>NAME</th>
<th>REPRESENTING</th>
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<tbody>
<tr>
<td>Kristin Bigda, Staff Liaison</td>
<td>NFPA</td>
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<tr>
<td>Geoff Craighead, Principal</td>
<td>Universal Protection Service</td>
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<tr>
<td>Jon D. Magnusson, Principal</td>
<td>Magnusson Klemencic Associates</td>
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<tr>
<td>John P. Miller, Principal</td>
<td>Los Angeles City Fire Department</td>
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<tr>
<td>Jack J. Murphy, Principal</td>
<td>Fire Safety Directors Association of Greater New York</td>
</tr>
<tr>
<td>Jake Pauls, Principal</td>
<td>Jake Pauls Consulting Services – Rep. American Public Health Association</td>
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<tr>
<td>William A. Stewart, Principal</td>
<td>Metropolitan Fire chiefs – IAFC/NFPA</td>
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<tr>
<td>Peter A. Weismantle, Principal</td>
<td>Adrian Smith + Gordon Gill Architecture LLP</td>
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The following guests were in attendance.

<table>
<thead>
<tr>
<th>NAME</th>
<th>REPRESENTING</th>
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<tr>
<td>Daniel Safarik</td>
<td>Council on Tall Buildings &amp; Urban Habitat</td>
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<td>Robert Solomon, NFPA Staff</td>
<td>NFPA</td>
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The following Principal members were not in attendance.

<table>
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<tr>
<th>NAME</th>
<th>REPRESENTING</th>
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<tr>
<td>James R. Quiter, Chair</td>
<td>Arup</td>
</tr>
<tr>
<td>Sally Regenhard, Principal</td>
<td>The Skyscraper Safety Campaign</td>
</tr>
<tr>
<td>James P. Shea, Principal</td>
<td>Brookfield Multiplex Europe</td>
</tr>
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3. **Approval of Minutes.** The minutes of the 2014 February 14 meeting were approved as distributed with no modifications.

4. **CTBUH Presentation.** Daniel Safarik, staff and editor at the Council on Tall Buildings and Urban Habitat attended the meeting and gave a presentation to the group regarding the current and future work of the Council. See attachment A.

5. **NFPA 101/5000 NITMAMs.** Two NITMAMs were received on material originally developed by the HRBSAC committee: one for NFPA 101 and one for NFPA 5000 regarding the text on stair monitoring equipment. A copy of the NITMAMs can be viewed in the motions committee report at www.nfpa.org/101next or www.nfpa.org/5000next. Jake Pauls and Jack Murphy are planning to be in attendance at the NFPA Technical Meeting in Las Vegas in June.

6. **New HRBSAC Website Update/Reminder.** A reminder that all committee documents can now be found at www.nfpa.org/highrisecom. General NFPA high-rise safety information as well as the EAP Guide can be found at www.nfpa.org/highrise.

7. **EAP Guide.** K. Bigda discussed the number of web hits to the EAP guide for office buildings. There have been a total of 1,173 clicks on the document since it was posted to the NFPA website in February. The committee discussed additional ways to ‘market’ the document including the following means: promote to NFPA regional directors, print paper copies for the NFPA booth, SFPE tech talk, communication with various organizations. K. Bigda will put together a few slides summarizing the document and distribute to the committee for their use.

8. **New Business.** Development of Residential EAP Guide: An outline and beginning of a draft for an EAP Guide for apartment buildings was developed. W. Stewart, J. Murphy, and J. Miller will contact various cities to request references for sample EAPs or EAP guides and K. Bigda will distribute to the committee. A draft developed by W. Stewart, J. Murphy, and J. Miller will be circulated to the committee for review by July 15th with a review of the draft due 4-6 weeks after receipt of the draft. J. Pauls will assist in updating the section on human behavior.

9. **Future HRBSAC Action Items.**
- Elevators: A building in Austin may be using elevators for occupant evacuation. K. Bigda will work with R. Solomon and others to look into a possible case study of the elevator use.
- Other: The committee is urged to continue to think about emerging issues in high-rise building construction and safety where the committee may play a role in future work.

10. **Next Meeting.** The next meeting of the committee will be a teleconference/web meeting sometime in the fall. A meeting date poll will be sent out over the summer to confirm dates.

11. **Adjournment.** The meeting was adjourned by Acting Chair, Geoff Craighead, at 11:45 a.m. on Wednesday, May 14, 2014.

**Meeting Minutes Prepared By:**

Kristin Bigda, NFPA Staff
ATTACHMENT A
Update on CTBUH Activities

Daniel Safarik
CTBUH Editor / NFPA HRBSAC Meeting
May 2014

Council on Tall Buildings and Urban Habitat

Founded in 1969
The CTBUH organizational member network includes 763,614 individuals working in 5,166 offices around the world

What The CTBUH Does

CTBUH Publications

CTBUH Annual Awards Book
http://books.ctbuh.org

CTBUH Quarterly Journal
The Council organizes a number of significant events each year. These include: world congresses and conferences attended by some of the world’s most influential architects, engineers and developers; annual tall building awards; technical tours of tall buildings around the world, and various meetings and seminars.

**World Congresses/Conferences**

There have been 9 World Congresses and 86 regional Conferences since 1969. Some examples are shown below:

**Selected Past World Congresses/Conferences Speakers**

- HE Mohamed Ali Alabbar
- William F. Baker
- HRH Prince Charles
- Charles Correa
- Mayor Richard Daley
- Jeanne Gang
- Gerald D. Hines
- Christoph Ingenhoven
- Fazlur Khan
- Eugene Kohn
- Daniel Libeskind
- Cesar Pelli
- John Portman, Jr.
- Paul Rudolf
- Larry Silverstein
- Adrian Smith
- Werner Sobek
- Carol Willis
- Ken Yeang
- Steven Holl
- Leslie Robertson

**Annual Awards Dinner**

**CTBUH Awards: Best Tall Buildings & Innovation Awards**

2013 Best Tall Building Asia & Australasia: CCTV Headquarters, Beijing

2013 Tall Building Innovation Award: BAK-02, China

2012 Best Tall Building Americas: Absolute World Towers by Chinese Architects

2011 Best Tall Building Asia & Australasia: Guangzhou IFC Towards CTBUH Awards Book Publication
CTBUH Working Groups

Global Research

Technical Research

Height Criteria / World’s Tallest

CTBUH Chapter Page
The CTBUH will establish its physical CTBUH Asia Headquarters Office within the College of Architecture and Urban Planning (CAUP) at Tongji University in 2014.

The Building C of the College of Architecture and Urban Planning (CAUP), Tongji University.

The CTBUH 2014 International Conference, Shanghai:

Future Cities 未来城市
Towards Sustainable Vertical Urbanism
CTBUH Fire and Life Safety Working Group

Recently re-energized by new leadership

Chair:
Simon Lay
Director of Fire Engineering
AECOM
Manchester UK

Vice-Chair:
Daniel O’Connor
Chief Technical Officer
AON FPE
Chicago US

Vice-Chair:
Russ Timpson
CEO
HorizonScan
Canterbury UK

CTBUH Fire and Life Safety Working Group

Simon Lay joined AECOM in January 2012 as their Director of Fire Engineering. Before joining AECOM, Simon worked at WS,P where he led the growth and development of their Fire Engineering team for 10 years. His considerable energy, technical expertise and strategic business development has been fundamental to establishing teams as credible providers of fire engineering services on a global scale.

Daniel O’Connor is the Chief Technical Officer of Aon Fire Protection Engineering Corporation (Aon FPE). Mr. O’Connor is a member of five NFPA Technical Committees that include NFPA 72, National Fire Alarm & Signaling Code, and is the immediate past Chair of the NFPA 101 Technical Committee on Healthcare Occupancies. He has been involved in numerous tall building projects during his career including the Trump Tower in Chicago, the proposed 610 meter (2000 feet) Chicago Spire, and the 112 story Doha Convention Center and Tower.

Russ Timpson is the CEO of HorizonScan, his experience includes International Fire Strategy for BAA, Head of Safety for Virgin Atlantic and the development of business continuity plans for several Multi-National companies. Timpson is the secretary of the Tall Buildings Fire Safety Network. His specialization is the facilitation of crisis simulation exercises.

CTBUH Fire and Life Safety Working Group

Date:
June 17-20, 2014

Location:
University of Greenwich, London

Organizer: The Tall Buildings Fire Safety Networking Group

Details:
In the recent past there have been a number of notable fires in Tall Buildings and these have resulted in a number of occupant and firefighters fatalities. The insurance industry is also grappling with the challenge of valuing losses from Tall Building fires as part of premium calculations. The use of lifts for fire evacuations continues to cause debate and controversy amongst fire engineers. These and many other subjects will be covered in the conference.

CTBUH members will receive a 10% discount on the registration fee.

CTBUH Fire and Life Safety Working Group

Target Output: Technical Guide on Refuge Floors in Tall Buildings

A Change in Material

Timber Towers

Michael Green Architecture, Vancouver, BC CAN, 2014
**Timber Towers**

- **SCM Theoretical Rebuild of DeWitt Chestnut Apartments – in Wood, 2013**
- **Stadthaus, London: Waugh Thistleton, 2009**
- **The Treet, Bergen, Norway (just approved)**
- **HSB 2023 – Vasterbroplan, Stockholm, Sweden (proposed)**

**What is Pre-Fabrication? What is Modular?**

- **Prefabricated Curtain Wall Panels**
- **Bathroom Pods**
- **Complete Fit-Out Units**
- **Structural Components**

**Early Tall Modular Examples**

- **1967. Habitat 67, Montreal**
- **1972. Space Capsule Tower, Kisho Kurokawa**

**Current Modular Examples**

- **Leadenhall, London**
- **The Treet, Bergen, Norway (just approved)**
- **HSB 2023 – Vasterbroplan, Stockholm, Sweden (proposed)**
Current Modular Examples

Atlantic Yards B2, New York
SHoP / Arup / Forest City

T30, Changsha, China
Broad Group

Current Modular Examples: The World’s Next Tallest?

Sky City J220, Changsha, China
Broad Group

Current Modular Examples


Modular: Benefits

Efficiency / Speed – Less time spent on site / Less “wet trades”

Safety – Controlled assembly environment; work that would be done at height is done on the ground instead

Quality Control – No weather conditions to interfere with assembly, no rotting, rusting, theft, etc.

Environmental – Less construction waste, on-site and across entire process

Logistics – Fewer overlapping trades and less coordination

Follow-on projects – Pre-fabrication across numerous projects at once? Learning from one project carried into the next, etc.

Modular: Challenges

Labor – Many trade unions are unfamiliar, suspicious or opposed to prefab – fewer, lower-skilled jobs?

Lack of Manufacturers – Few choices to produce at scale, thus limited pricing leverage; Pioneers mostly joint-venture or self-build

Logistics – Traffic, trucking coordination; possibility of damage during transportation

Safety – Seismic / wind resistance unproven at supertall / megatall height; Stacked modules still need lateral bracing. Fire codes not optimized?

Aesthetics – How to seem less “boxy,” product-like?

Relation to “Place” – How to create site-specific design responses, that relate to the physical, environmental and cultural aspects of the site (anti-homogenization)?
A Change in Function

100 tallest buildings by function

- Office
- Hotel
- Retail
- Residential

Council on Tall Buildings and Urban Habitat, 2014