

**Minutes
Ad Hoc Committee on Terrorism Resistant Buildings
September 1, 2005 Conference Call
12:00 P.M. CDT**

Committee Members Present:

H. John Baumgartel
William Connolly (Chair)
Edmund Goodfield
Derek Horn (Vice-Chair)
Gary C. Lewis
Lanny McMahon
Jim Schifiliti

Committee Members Absent:

Ray Moore
Ken Rice
Dan Smits

ICC Staff:

John Battles, Staff Liaison
Tom Frost, Senior VP

1. Call to Order:

Chair Connolly called the meeting to order at approximately 12:08 p.m. CDT.

2. Approval of August 2, 2005 conference call minutes.

Motion carried to approve the minutes as written.

3. Discussion of NIST report of the World Trade Center executive summary, complete recommendations, and full report.

The recommendations were reviewed to determine the following:

Which organization should take the lead?

Which ones are appropriate for the TRB Committee to address as code issues?

1. Progressive collapse...**ASCE** If ASCE does not take the lead, perhaps ICC should evaluate the recommendation. This may be applicable also to buildings smaller than the WTC.

2. Performance standards...**ASCE**.

3. Limitation of building sway...**ASCE**.

- *4. Construction classification based on height...**ICC** The Code addresses construction classification and fire resistance rating based on height of building.
5. Fire resistance testing...**ASTM or NIST** The codes simply adopt the standards.
- *6. Criteria, test methods and standards of spray-applied fire resistive materials...**ASTM and ICC** (ASTM should address the issue of test methods. ICC should address the issue of "special inspection" of fire proofing.
- *7. Structural frame approach to fire resistance ratings...**ICC** Table 601 of the IBC addresses this issue.
- *8. Uncontrolled building fires, burnout, and building collapse...**ICC** Table 601 addresses the issue that burnout will not cause the building to collapse. For tall buildings we need to look at the code adequacy of the fire resistance if the automatic sprinkler system is damaged. Since the fire service may be able to get a hose stream to the fire, small buildings may not be an issue.
9. Performance based standards...**NIST** This is a standards development issue. There is no criteria to design a solution.
10. Development of new fire resistive materials...**Private sector / market driven.**
11. Evaluation of high-performance materials...**ASTM, NIST, AISC, ACI.**
- *12. Performance and redundancy of active fire protection systems...**ICC** – Balanced fire protection is being address by the ICC Code Technology Committee.
13. Fire alarm and communication systems...**NFPA** – NFPA develops the standard and ICC references the standard.
- *14. Fire/emergency command control centers...**NFPA, ICC** – NFPA develops the standard and ICC references the standard. ICC needs to address the issue of retrofit of existing buildings in the IFC.
15. Real-time transmission of building monitoring systems to emergency responders...**NFPA** – NFPA develops the standard and ICC references the standard.
- *16. Public education to improve occupants' preparedness...**ICC** – Fire drills are addressed in the IFC.

*17. Full building evacuation...**ASME and ICC** – ASME is addressing the use of elevators for building evacuation. The use of elevators for building evacuation is being addressed by the ICC Code Technology Committee. The ICC Code Technology Committee is monitoring ASME. The issue of counter flow on the stairs should be addressed by ICC.

*18. Remoteness and fire resistance of exits...**ICC** – The code addresses the location and fire resistance of exits.

19. Communication system among emergency responders...**NFPA**.

20. Evaluation of current and next generation evacuation technologies...**Too general to decide who should take the lead**.

21. Fire-protected and hardened elevators...**ASME** – Technical feasibility for elevators is the first step before ICC should evaluate it.

*22. Installation, inspection, and testing of emergency communication systems...**NFPA and ICC** – NFPA develops the standard and ICC references the standard. ICC needs to address the issue of retrofit of existing buildings in the IFC.

23. Establishment and implementation of procedures and methods for gathering, processing, and delivering critical information...**Homeland Security**.

*24. Command and control systems...**Homeland Security and ICC** – The location of the building emergency control system center is a building code issue.

25. Encourage building owners to comply with the code...**Building owners**.

*26. Retrofit of existing buildings...**ICC** – A Hazard Abatement Code Committee is currently developing a document based on an ICBO code. The TRB committee should monitor the Hazard Abatement Code Committee's activity.

*27. Retention of documents...**ICC** – Retention of design documents and fire & life safety manuals (operations and maintenance manual) is an administrative issue.

*28. Make-up of design team...**ICC** – The requirement for an "appropriate design professional" is currently in the ICC Performance Code.

*29. Continuing education for design professionals...**ICC** – Even though this is a state licensing issue, ICC should participate.

30. Develop training material in the use of fire dynamics and thermostructural analysis...**Not a code issue**.

The committee was directed to review in detail the recommendations that were designated as action items by ICC. During the next conference call the committee will determine how each item will be addressed, such as develop code changes, coordinate with other committees, monitor action by others, etc.

4. Status of Mr. Baumgartel's nondisclosure agreement with ICC in order for the Ad Hoc Committee on Terrorism Resistant Buildings to review the "Architectural Surety Code".

No Action.

5. Status of staff finding The Discovery Channel program regarding the reconstruction of WTC #7.

I located the following DVD on the Discovery Channel Store: Engineering the Future WTC: Rebuilding Ground Zero. ICC will purchase the DVD and forward to the committee members for review.

6. Other Business

If time permits, the TRB Committee should brainstorm about other terrorism resistant issues not on the NIST list. The following is a brief list of the items:

- Storage of combustible material on upper floors
- Outside and inside air intakes
- Building siting, i.e. setback distance
- Blast proof glass
- Vulnerability of ground floor versus upper floors, i.e. envelop issue

7. Next Step

During the next conference call the committee will determine how each item that was designated as an action by ICC will be addressed, such as develop code changes, coordinate with other committees, monitor action by others, etc.

The next meeting will be September 22, 2005, 11:30 A.M. CDT.

8. Adjournment.

The conference call was adjourned at approximately 1:16 P.M. CDT.