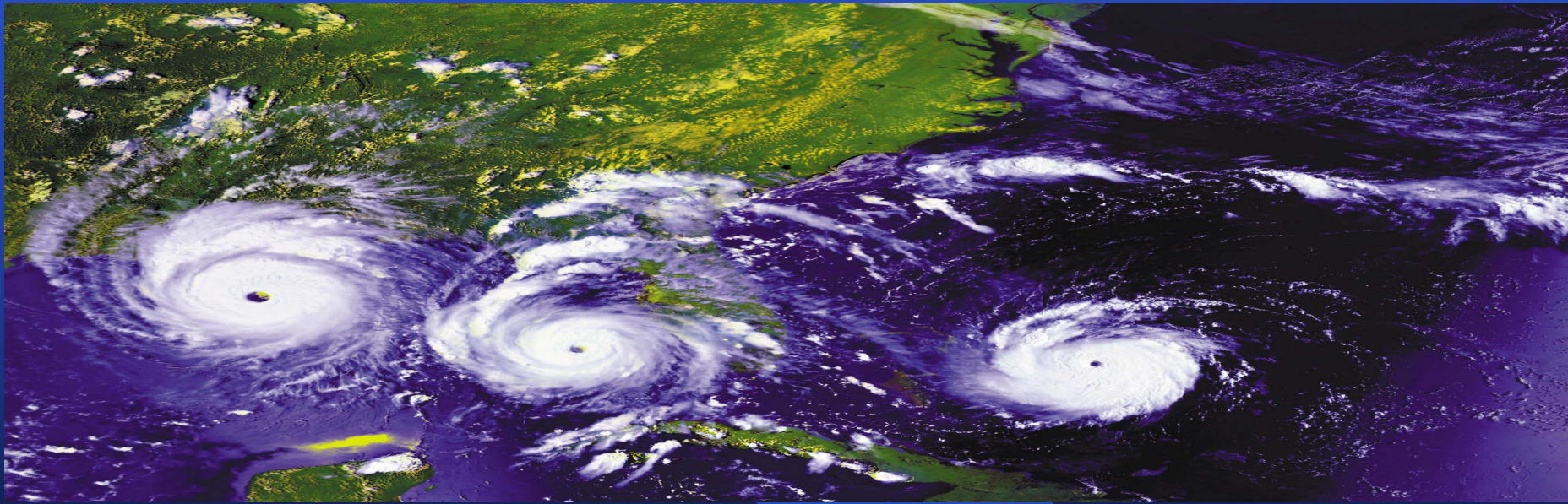


United Nations World Conference on Disaster Reduction



Rick Okawa, P.E.

ICC Vice President of International Services

Policies for Safer Building/Housing

- Reducing the Underlying Risk Factor

Questions to Consider:

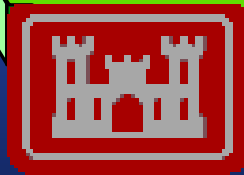
- **Natural Disasters will continue to occur but how can we mitigate the impact on our communities?**
- How does the U.S. address the current vulnerable housing stock to be safer for its occupants?

Disaster Mitigation in the United States is Multi-faceted at various levels:



- Federal Agencies
- National Organizations
- U.S. States & Local Municipalities
- The Public & Building Owners

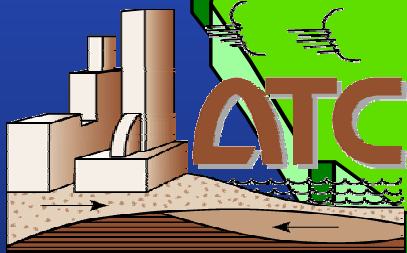
Collaborative Efforts in the USA (public and private)



US Army Corps
of Engineers ©



Collaborative Efforts in the USA (public and private)



Websites for Information

Federal Emergency Management Agency: www.fema.gov

United States Geological Survey: www.usgs.gov

National Oceanic and Atmospheric Administration:
www.noaa.gov

United States Army Corp of Engineers: www.asace.org

International Code Council: www.iccsafe.org

American Society of Civil Engineers: www.asce.org

Websites for Information

Structural Engineers Association of California:

www.seaoc.org

National Council of Structural Engineers Associations:

www.ncsea.com

Applied Technology Council: www.atccouncil.org

American Institute of Architects: www.aia.org

Earthquake Engineering Research Institute: www.eeri.org

Collaboration & Implementation

Federal Level – Lessons learned from every disaster are documented. Disasters addressed on a national level (and local level) and benchmarks are established for safer buildings, initially, applying safer designs and construction requirements for federal buildings.

- Agencies such as the Federal Emergency Management Agency (FEMA), Department of Homeland Security, have established requirements on a collaborative basis by involving the public and private sectors. Federal funds support the program. An example: The National Earthquake Hazards Reduction Program (NEHRP)

Collaboration & Implementation

National Organizations – through the collaboration at the federal, state and local levels, national organizations such as ICC and its technical code development committees consider code changes on new disaster mitigation requirements into the appropriate ICC building code. Approved changes are incorporated into new building code edition every 3 years.

All code development committee hearings are open to the public and anyone may testify on proposed code changes.

Collaboration & Implementation

U.S. States and local municipalities – adopts the new building code edition or new requirements for implementation in their jurisdiction. The adoption of the most current codes are at times required for communities to receive future federal funding for disaster recovery and an incentive to stay current to new mitigation measures.

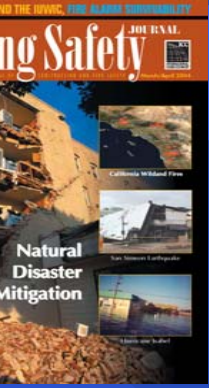
The Public & Building Owners – are required to comply with the new requirements for new construction and where deemed unsafe, jurisdiction attempt to apply it to existing construction. Difficulties occur when this attempt is made.

Policies for Safer Building/Housing

- Reducing the Underlying Risk Factor

Questions to Consider:

- Natural Disasters will continue to occur but how can we mitigate the impact on our communities?
- How does the U.S. address the current vulnerable housing stock to be safer for its occupants?



The ICC Vision, Mission & Values

Vision: Protecting the health, safety, and welfare of people by creating better buildings and safer communities.

Mission: Providing the highest quality codes, standards, products and services for all concerned with the safety and performance of the built environment.

Values: Customer value; Integrity and trust; Member-focus; Professionalism; Public Service; Quality.



ICC Building Regulations

*** Note: These Codes primarily for new construction.**

- International Building Code
- International Residential Code
- International Fire Code
- International Zoning Code
- International Urban Wildland Interface Code

ICC Building Regulations

Note: These Codes apply primarily to existing construction

- International Existing Building Code (First Edition in 2003)
- International Property Maintenance Code
- International Urban Wildland Interface Code
- International Zoning Code

ICC Existing Building Regulations

IEBC Section 101.4 Existing Buildings. The legal occupancy of any existing building existing on the date of adoption of this code shall be permitted to continue without change, except as is specifically covered by this code, the *International Fire Code*, or the *International Property Maintenance Code*, or as is deemed necessary by the code official for the general safety and welfare of the occupants and the public.

IUWIC Section 101.2 Scope, 2nd paragraph. Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition, use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a distinct danger to life or property.

Problems in Retrofitting Existing Building Stock

The tools (Codes) and mechanisms (technology and code administration and enforcement) are in place to implement disaster mitigation code provisions for the existing building stock.

Factors which makes it difficult to implement:

- Economic Impact and Costs to retrofit existing buildings.
- Disruption and Costs to relocate occupants while the retrofit is being done.
- Business interruption.
- My “home is my castle” attitude by the homeowner.
- Legal concerns.
- Political pressures placed upon the city councils and mayors, particularly when their re-election is threatened.
- A multitude of other reasons.

Possible Resolution of Existing Building Stock Problem

Public Awareness Programs.

- Defining the problem by conducting preliminary and, if needed, detailed analysis of the Risk.
- Conduct Cost Benefit Analysis.
- A unsafe and dangerous condition must be proved.
- Strong support from recognized experts and organizations.

Defining and refining the alternatives for rehabilitation.

- Retrofit program is not as stringent as for new buildings. Reduction of design force levels for new buildings.

Adopting an approach and an implementation strategy.

- Four possible strategies.

Securing the needed resources and implementing the rehabilitation measures.

Four Strategies



- Attrition is one choice and has the least conflict.
- Purely voluntary rehabilitation but may engender conflict as government becomes involved in the permitting process.



Four Strategies

More proactive role of government and potentially higher level of conflict. Entails informally encouraging owners to rehabilitate their buildings by establishing some standards and triggers and then negotiate the scope of work on a case-by-case basis as a condition of being granted the necessary permits.

Highest degree of conflict - government mandates rehabilitation. Establishes ordinances, types or uses of buildings required to rehabilitate, applicable standards, reporting and inspection requirements, time frames for compliance, and penalties for not complying.

THANK YOU
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