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NATIONAL COMMISSION ON TERRORIST ATTACKS UPON THE UNITED STATES

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Fifth public hearing of the National Commission on Terrorist Attacks Upon the United States

Statement of Glenn Corbett to the National Commission on Terrorist Attacks Upon The United States November 19, 2003

Good afternoon. Chairman Kean, Vice Chairman Hamilton, and Members of the National Commission on Terrorist Attacks: thank you for inviting me to speak on the very important issue of "Standards for Disaster/Emergency Management and Business Continuity."

My name is Glenn Corbett. I am an Assistant Professor of Fire Science at John Jay College of Criminal Justice in New York City. I serve as a Technical Editor of Fire Engineering Magazine, a 127 year-old national fire service trade journal. In addition, I am a Captain in the Waldwick, New Jersey Fire Department and serve on the New Jersey State Fire Code Council.

Current News

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I would like to begin my testimony today with a brief overview of our national building codes and related emergency preparedness standards. Codes and standards establish a minimum level of acceptable performance. They can also be used as a "ruler" to see how specific facilities and emergency procedures "measure up."

Generally, codes deal with the built environment - the design of buildings themselves. Standards typically establish procedural protocols such as how and when to evacuate a building. While this description generally holds true, emergency procedures often find their way into codes.

The design of buildings and the emergency procedures used within them are critically linked. For example, the ability to quickly and safely evacuate a building is based the relationship between the structure's design and its adopted evacuation procedures. Effectiveness and success are dependent upon the articulation between these two areas that are covered by both codes and standards.

Despite the importance of life safety in buildings, we have no single code or standard to follow. Instead, we have a myriad of organizations preparing these documents, some of which are in the public sector while others are in the private sector. Some are guidelines without the force of law while others are statutes that must be followed. Several codes and standards overlap, while some are completely duplicative.

Unbelievably, when it comes to terrorism-resistant building designs, we have no comprehensive national code for building designers to follow. Despite the fact that a certain buildings in our country are potential terrorist targets, we have yet to develop a single set of comprehensive and detailed terrorism-resistant building regulations that provides a nationally accepted baseline.

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Generally speaking, building codes are enacted at the state and local levels of government. Cities and states typically adopt a "model" building and fire code, a set of nationally developed regulations, which can then be amended to meet local needs. There isn't any federal regulation that requires the adoption of a building or fire code at the state or local level. Some jurisdictions have not adopted any construction or safety codes at all.

States and cities can choose from two sets of model building and fire codes; one prepared by the National Fire Protection Association (NFPA) and the other by the International Code Council (ICC). While these two sets of codes broadly cover the same topics, they are different in format and their specific requirements do vary. States and cities adopt one of these two sets of model codes and typically add their own amendments, making building safety uniformity difficult to achieve across the United States.

Neither of these two sets of model codes addresses the issue of terrorist-resistant building design. If a building designer or building owner wishes to have their building made terrorism-resistant, they cannot simply look to their locally adopted model building and fire codes for guidance. They are forced to wade through a variety of narrowly-focused terrorism design guidelines that address specific issues such as glazing or air-handling system design. Often, the building designer/owner will retain the services of a consultant conduct a risk assessment and to advise them as to how to deal with the problem without the benefit of a single comprehensive and detailed national code to measure themselves against. The strength or weakness of the consultant's assessment and recommendations is solely based upon the consultant's expertise, not the baseline of a national code.

Obviously, most buildings do not need to be rendered terrorism-resistant. However, many

communities have potential terrorist targets within their boundaries. Building designers, building owners, and community leaders should have the ability to assess a particular structure's vulnerability to a terrorist attack.

It appears that the Department of Defense has made the only attempt at a broad set of terrorism-resistant design guidelines. While DoD's UFC 4-010-01 Minimum Anti-Terrorism Standards for Buildings is broad in nature, it is explosion threat driven and lacks any real detailed design criteria for biological and chemical attacks.

When it comes to emergency preparedness protocols for evacuations and the like, the situation is a bit brighter. There are a variety of emergency planning tools, both as stand alone documents, or as text embedded within other larger safety-related documents. For example, the Occupational Safety and Health Administration (OSHA) requires that entities under their jurisdiction comply with 29 CFR 1910.38 which mandates that a Emergency Action Plan be prepared for fires and other emergencies. These OSHA regulations, however, do not speak specifically to terrorism incidents and are generally "light" in detail.

Both the NFPA and the ICC have recently upgraded their fire codes (NFPA 1: The Uniform Fire Code and the International Fire Code, respectively) to include more extensive emergency planning requirements. These codes, however, must be adopted and enacted for them to have the force of law within a jurisdiction. For example, the State of New Jersey is in the process of adopting a new fire code, which will likely be the 2003 edition of the International Fire Code. Until that time of adoption, however, the requirements contained within these regulations cannot be enforced by the State.

New York City has taken another route. As a result of the attacks on the World Trade Center, they established a World Trade Center Building Code Task Force within the City's Department of Buildings to review the need for updating the City's building regulations. The Task Force issued a report including 21 recommendations, including one which recommends full evacuation plans to be developed for non-fire events high-rise structures and another which calls for all new buildings to have fresh air intakes for heating, air-conditioning, and ventilation systems be located at least 20 feet above grade and away from loading bays.

New York City Mayor Bloomberg subsequently reviewed the World Trade Center Building Code Task Force report and agreed to immediately begin the process of implementation of 13 of these recommendations. Full building evacuation planning was one of these 13.

Full high-rise building evacuations are of great concern to life safety specialists across the country. Our model building codes do not anticipate full high-rise building evacuations - stairwells are designed to handle the evacuation of only a few floors, leaving most occupants in the building to stay where they are located. The experiences of the 1993 World Trade Center bombing and the events of 9/11 certainly contradict this "defend in place strategy" that is common to nearly all high-rise buildings across the country.

The NFPA has also developed a more comprehensive emergency planning tool known as NFPA 1600 - Standard for Disaster/Emergency Management and Business Continuity Programs. This document provides details in establishing a disaster response program, including protocols for post-incident business survival. Even non-code writing organizations have prepared standards for emergency preparedness, The Building Owners and Managers Association (BOMA) has issued its

own set of guidelines.

In light of this discussion, it can be seen that compliance with codes and standards can be a complex and confusing situation. Private sector businesses must first establish what local laws apply to them and determine whether or not these codes and standards include provisions for emergency planning. If they are constructing a new building and desire that it be terrorism-resistant, they will need to retain the services of a consultant and depend upon that individual to develop a proper design without the benefit of a detailed code or standard.

A related issue is that of the role of local and state government in the "approval" of specific buildings and the emergency procedures used within them as it relates to terrorism preparedness. While the emergency procedures used within a given building will typically fall within the jurisdiction of the local fire code enforcement official, the building design features are a different story. Should local governments dictate which buildings are terrorist targets and require specific anti-terrorism building features or should the building owners themselves make that decision?

I would suggest that the answer lies somewhere in between. State and local government must take an active role by conducting a general terrorism risk assessment in their communities, identifying their vulnerabilities. Building owners whose facilities are identified within that assessment should be encouraged to expand their emergency preparedness plans to include issues of terrorism (if they do not already) and to develop a list of building terrorism-resistant design upgrades to address the threat.

A useful model to follow that would likely help move this assessment program forward is the Emergency Management Accreditation Program (EMAPS) developed by the International Association of Emergency Managers (IAEM), the

Federal Emergency Management Agency (FEMA), and the National Emergency Management Association (NEMA). This program accredits individual communities for their disaster mitigation, preparedness, response and recovery programs. Perhaps a similar program for private sector facilities could be developed which would allow for an unbiased and independent assessment.

In light of this situation, I make the following recommendations for the Commission's consideration:

- The Department of Homeland Security should take a proactive role to initiate the development of a code for the terrorism-resistant building design. The code should provide detailed and specific requirements that establish a minimum level of acceptable protection against terrorist attacks.
- An accreditation program for private sector facilities that evaluates their emergency preparedness - both the physical plant and the operational emergency planning aspects - should be established. Such an accreditation program would not only be useful for building owners but for local governments as well.
- The model code groups - specifically the National Fire Protection Association and the International Code Council - should be encouraged to coordinate their emergency planning criteria. This will make it easier for multi-site private sector businesses with operations in many states to have a better chance at achieving uniformity.
- The "defend in place" strategy and full building evacuations for high-rise

buildings needs to be thoroughly studied and assessed. Today's reality is that building occupants will not just follow orders to remain in place during an emergency - it's very possible that they will self-evacuate into stairwells that are not designed to handle the crush of people.

Thank you for the opportunity to speak on this very important topic. I would be pleased to answer any questions that you may have.

Glenn Corbett is a Fire Captain in Bergen County, New Jersey. He is also a Professor of Fire Safety at John Jay College of Criminal Justice, and he serves as a member of the NIST (National Institute of Standards and Technology) Investigation. Mr. Corbett has extensive experience in different facets of fire protection including the fields of firefighting and fire prevention, as well as in-depth knowledge of the development and trends of the American fire protection profession.

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