

# Rethinking ATFP Security Standards

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The federal government is expected to spend several billion dollars in the next few years on the construction of new infrastructure. However, because of a lack of public dialogue on Department of Defense (DOD) anti-terrorism and force protection (ATFP) standards, a significant amount of those dollars will go to waste. Inflexibility on the part of DOD to consider progressive alternatives to current security standards has resulted in the design and construction of less-than-optimal buildings that compromise aesthetics, public space and energy efficiency while increasing total risk to building occupants and the public.

In addition, DOD's focus on protection, standoff distance and building hardening precludes serious evaluation of other mitigation options such as redundancy, dispersed operations, prevention, response and recovery. With DOD now responsible for additional

homeland defense missions and dependent upon local civil infrastructure, it is time to rethink DOD ATFP standards and employ an all-hazards approach consistent with national and local community objectives.

The architecture and engineering community has the capacity to take the lead and demonstrate how integrated all-hazards risk analysis and high-performance green building design can combine with community emergency management and preparedness to offer a new generation of safe and secure buildings. Such integrated buildings can offer protection and safety against all hazards and threats and provide an environment in which people want to work, live and play.

## New Challenges

The architecture and engineering community has a long history of designing for natural and manmade hazards

The architecture and engineering community must demonstrate how integrated all-hazards risk analysis and high-performance building design can facilitate a new generation of safe and secure buildings.

The 82-ft standoff distance required by current DOD ATFP standards is typically achieved through use of bollards such as those shown. According to the author this protection scheme and others like it can be easily defeated, and may cause unnecessary risk and inconvenience to the public.



Photo by Michael Chipley, Ph.D., PMP, LEED AP, M.S.A.M.E

such as fire and crime; indeed, the entire building code is predicated on zero loss of life and minimal property damage.

The issue now at hand is the terrorist manmade threat typically identified as Chemical, Biological, Radiological, Nuclear and Explosive (CBRNE), but that also can include cyber, electromagnetic pulse and other emerging threats. A major challenge is defining acceptable loss due to manmade terrorist events; it is an explicit statement that casualties will occur. The basis of current design practice is the Design Basis Threat (DBT) and Level of Protection, which trace their histories to the DOD Unified Facility Criteria and the General Services Administration's Interagency Security Committee criteria.

Risk analysis methods and techniques have been used for many years by many disciplines, but very few professionals in the architecture and engineering community understand total risk or are willing to challenge government requirements related to security and AITP. Currently the explosive threat dominates almost all design and operations and requires standoff distance, façade hardening and other very expensive protection elements to minimize mass casualties. Yet on a total risk basis, the explosive blast threat can be mitigated in a much more comprehensive, efficient and less costly way.

### The Cost-Benefit Analysis

As part of an all-hazards risk analysis, a cost-benefit calculation must be used to evaluate mitigation options. The Federal Emergency Management Agency, National Fire Protection Association, ASTM International and ASIS International each provide a calculation method; however, when it comes to CBRNE threats, cost-benefit calculations are typically disregarded because "the standards must be met." The low probability-high consequence event trumps the high probability-low consequence event nearly without exception. The result is what is often seen around government and high-value commercial buildings—blocked access to public space, bollards placed in the middle of handicap access ramps, pedestrians forced into the road by blocked side-

walks—in general, an elevated exposure of the public to everyday risks and inconveniences to protect a small number of DOD building occupants from an easily-defeated DBT.

The protection scheme can often be used as a means to defeat the protection plan. For example, the DBT weapon for DOD is a 220-lb car bomb and for the General Services Administration it is a 200-lb car bomb, requiring 82-ft and 50-ft of standoff distance respectively. The standard perimeter protection schema is to use bollards spaced 4-ft on center. This schema is easy to defeat; a motorcycle is capable of carrying a 500-lb load and can easily maneuver between the bollards, ramps can be used to go over the bollards, or a bollard itself can be used as a pivot point to launch the weapon to the building. However, the easiest way to defeat the perimeter protection is simply to use a larger bomb. In urban and semi-urban environments, it is almost impossible to achieve more than 50-ft of standoff distance, and trucks, buses, vans and other vehicles on adjacent roads can carry thousands of pounds of explosives.

The result is bad land-use decisions and inefficient layers of defense on military installations and in nearly every community with leased or owned DOD buildings. Current AITP standards have resulted in jersey walls blocking community roads, sidewalks and public spaces; fences and bollards around buildings to provide 82-ft of standoff on fully-secured military installations; and entrance gate designs that queue traffic on local roadways. What level of risk is mitigated, to whom and at what price?

Communities and private industry also must address the terrorist threat. There are a number of building, facility, infrastructure and IT risk-assessment methods in use today, and entities also have developed risk analysis methods for different critical infrastructure sectors. Buildings present a special challenge because of complex ownership and tenant relationships, sheer number and different types of buildings, and lack of a mandatory national building all-hazards risk standard. The *Homeland Security Act of 2007* identified this weakness and the Department of

Homeland Security, in conjunction with other stakeholders, is now required to develop a national standard for voluntary preparedness that cites *NFPA 1600 Standard for Emergency Management and Disaster Recovery*. The new standard will be based on an all-hazards approach and will comply with standard business practice requirements.

### A New Approach

With the passage of the *Energy Act of 2007* high-performance green building energy efficiency reduction requirements combined with the *Homeland Security Act of 2007* voluntary preparedness standard, a new approach should be considered. To reduce energy consumption by 30 percent, the nation will require a change in workforce distribution, transit and building design. The IT infrastructure in place will expand to enable telecommuting and work from alternate locations to become a much larger percentage of hours worked. The move to acquire building space based on utilization ratio and the mandate of many communities for transit-oriented development will significantly alter traditional home-work commute patterns. As more people work from home, use alternative work schedules and spend less time in traditional office space, dispersion will become a key element of a protection strategy.

DOD contractors must soon make a decision: follow the terrorist-focused DOD AITP standards and be exposed to future potential legal liabilities and costly, inefficient protection schemas, or use a standard that will be capable of addressing all-hazards risk. DOD has been instrumental in developing the CBRNE risk analysis methods, and communities understand that DOD facilities are high-risk targets. By partnering with communities, DOD can develop and adopt all-hazards risk analysis methods to create safe and secure communities; design architecturally- and aesthetically-pleasing and energy-efficient buildings at a reasonable cost; and balance risk to all parties.

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