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WHITE PAPER: CODE COMPLIANCE IN THE POST 9/11 ERA

Managing Life Safety & Security In a Complex Environment

After the terrorist attack on the World Trade Center on September 11, 2001, the real estate and facilities management communities in America were forced to confront new realities and to rethink their approach to old ones. In the aftermath of this intentional act of destruction on an unforseen scale, it became clear that traditional analyses and solutions would not suffice.

Those traditional approaches were enshrined in the building safety codes established by government entities, and compliance with those codes was until recently the focus of attention for owners and facilities managers. Although code compliance is, of course, necessary, there are several reasons why it is not enough.

First, safety codes have to be arrived at by a process of political negotiation; and, as a result, they are by definition comprises.

As such, they tend to be cautious and conservative, and they reflect a desire to minimize the costs imposed on building owners. Second, due to the process of complex multilateral negotiation, codes are slow to adopt to changing conditions. Even now, more than six years after 9/11, changes to New York City's safety codes are still under consideration. And third, because codes need to apply broadly, they cannot be facility specific.

A "one-size-fits-all" approach will not satisfy the requirements of complex structures, which are quiet different from those of ordinary office or residential buildings. Complex structures such as convention centers, casinos, hospitals, concert halls, museums, and airports present special problems. By their very nature, such large, multi-use structures are difficult to navigate, which increases the risk level not only to employees and members of the public who use the facility but also for emergency personnel, who have to move quickly in a crisis.

There is another, overarching reason for transcending code compliance, and it is that catastrophic damage is now a very real possibility, not just a theoretical concern. As a goal, keeping costs down seems painfully short-sighted, given the fact that the costs of an event like a terrorist attack in terms of life, infrastracture, and inventory dwarf any amount that might be saved by taking a limited approach.

New York is engaged in a program to revamp its safety codes, and similar efforts are underway across the nation. This process holds out hope that codes will soon become more relevant to the security problems of today's world. In the meantime, though, codes cannot be the gold standard for facilities and managers.

This is a new approach to finding solutions to the security problems of complex structures. It entails going beyond the simple identification of a client's risk factors into determining how to mitigate those risks, what technology to use, and how to seamlessly integrate that technology into an existing facility or the design for a new facility.

The most successful type of life safety and security management makes use of a multifaceted system, fully integrated into a complex structure, which protects that structure on four levels: life safety, security, communication, and facilities management.

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LIFE SAFETY has three levels: (1) code compliance, (2) enhancements to protect facilities, and (3) higher-order enhancements that improve the way all people interact with the facility and improve their total experience.

An example of level 3 is wayfinding and tracking technologies.

SECURITY must fulfill three basic requirements: protection of people and assets, crisis management, and planning for the resumption of business after a crisis.

Physical security consists of protecting people and assets from harm using such methods as access control via barriers and turnstiles, closed circuit TV, and intrusion alarm systems. Executive security means putting systems in place, such as safe rooms, so that in the event of a crisis the top decision-makers can be protected and be able to continue operations. Intellectual property and information technology security must be considered in order to enable return to normal operations in the shortest period of time.

COMMUNICATIONS is essential in any facility, during a disaster or in everyday use. Wireless communications systems have proved to be the most effective at maintaining communication, regardless of the physical composition and design of structure, during a crisis.

Wireless systems also enhance routine communications. The same factors that make complex structures difficult for people to navigate can also make it more difficult for electronic signals to find their way from one point to another. Today, wireless designs solve this problem, thus reducing risk not only in the event of a disaster but also every day. Interrupted communications obstruct economic goals and prevent business expansion.

The overall goal is not only to protect lives and property during a disaster but also to make people's interaction with the structure more productive and pleasant, to make it easier to do business every day and easier to resume business after a crisis.

Although designed to protect people and facilities in the event of disaster, life safety and security systems have collateral benefits on a day-to-day level. They improve interaction between people and the structure, and this is especially important in the case of complex structures. A structure is considered complex if it is difficult to navigate, if it presents challenges to mobility beyond what a traditional office building would. Usually, such structures were designed for multiple purposes and are used or traveled through by a large number of different types of people with different levels of knowledge of the structure. Wayfinding technology makes it much easier to navigate a complex structure, by providing a visitor or staff member with detailed interactive maps tailored to his immediate needs. While important for emergency personnel who must get to the scene of a crisis quickly, wayfinding also enhances the experience of all other users of the facility on a daily basis.

Conversely, security measures can have the unintended effect of worsening the experience of those who interact with a structure. This occurs when a system adds inconveniences, makes the surrounding uglier, or creates a forbidding or intimidating environment. Where appropriate, system should be as unobtrusive as possible and fit with the overall aesthetic of the facility.

In other situations, however, it may be desirable for a system to be clearly visible or even intimidating, in order to deter attacks or other crimes.

Although the present time is one of heightened danger, fortunately it is also a time of major technological advances. The wireless revolution is transforming communications on a multitude of levels, and this innovation is ideal for life safety and security in complex structures. Because it operates by electromagnetic radiation instead of current carried by wires, this technology is particularly suited to the goal of treading lightly and not disturbing existing features and systems. Furthermore, wireless is simply better when it comes to maintaining communications during a crisis.

One of the lessons of September 11 is that wireless is the only way for fire and rescue workers entering into large buildings to stay in touch with their command station on the ground.

One reason so many firefighters died at the World Trade Center was the lack of devices to amplify and transmit signals properly. Innovative wireless devices known as repeaters could ensure that such a breakdown in communication will never happen again.

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