STONE
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Welcome to the seventh volume of **Stone Security Engineering Industry Briefing**. This volume includes more details on the changes in the updated UFC 4-010-01 Minimum Antiterrorism Standards for Windows, 3-Reasons why design-build may be the best choice for physical security projects, and things to consider in post-collapse building assessments. Enjoy!

What's New for Windows?
Updated UFC 4-010-01 Minimum Antiterrorism Standards For Buildings

One area of changes in the New UFC 4-010-01, 9 February 2012, is in the design requirements for exterior windows and skylights. *The updates are pretty exciting,* from this blast engineer's perspective, because they explicitly address some of the recurrent questions from design teams and owners, and clarify items that seemed to have differing interpretations, depending on who was doing the interpreting. Well done PDC!

Historically, exterior windows and their supports, have been one of the primary areas where application of the UFC 4-010-01 has added costs to projects, so *any changes to window requirements should be of the utmost interest* to design and construction teams, developers, and building owners.

Here are some of the changes that affect exterior windows:

- Standoff Distances for Window Design: The updated UFC now requires that all exterior windows and skylights be designed for explosive weights I and II located at the actual standoff. A caveat to this is that explosive weight II is waived for window design if the standoff exceeds 200 feet. This is a big change from the previous version of the UFC, which required that windows be designed for the conventional construction standoff distances, even if the project had larger standoffs. So....buildings with larger standoff distances could benefit from significant load reductions - which should hopefully translate to cost savings - under the new UFC.
- Analytic Approach: One of the really useful updates to the document is....[Read More]

Three Reasons to Choose Design-Build For Physical Security Projects

> Historically, the most common method for constructing a new building or building improvements was what is known as *Design-Bid-Build*. In this approach, the owner hires a design team to create a detailed set of drawings and specifications which completely describes what is to be constructed. The owner then puts the project out to bid for construction, receiving and evaluating proposals from construction contractors. Finally - once the owner has gone through the proposals, selected a contractor, and negotiated a contract - the construction can begin. In many cases, the overall time from identification of need to completion of construction can be quite lengthy, especially for public and quasi-public agencies which have many contracting regulations that extend the bid and bid review process.

An alternative to this is the *Design-Build* approach. The Design-Build Institute of America (DBIA) defines Design-Build as "a method of project delivery in which one entity - the design-build team - works under a single contract with the project owner to provide design and construction services." There are many varieties of design-build; from an RFP that basically says "I want a wall" to a much more rigorous approach (such as is often used by the US Government) where a set of drawings and performance specifications are developed to between 10% and 35% completion. In between these two extremes is the "this is generally what I want" approach, which

provides a rough sketch of what is wanted with a list of the essential design requirements.

When talking about security improvement projects, *Design-Build can be the best approach to rapid, cost effective implementation*. [Read More]

Considerations in Collapse Building Assessment for Rescue Environments

As much as we would like to think of buildings as inviolable, it is a fact of life that they can - and do - collapse. In fact, a quick internet search shows *the following collapses in the past six months:*

- May 4, 2012: Residential building collapse in Harlem, New York.
- April 16, 2012: Factory building in Jalandhar, India
- March 23, 2012: Apartment Building, Alexandria Egypt
- March 18, 2012: Building Floor in NYC collapsed during a party
- January 26, 2012: Three commercial buildings in Rio De Janeiro, Brazil
- January 16, 2012: Residential Building in Beirut, Lebanon
- November 8, 2011: Five story building under construction, Brooklyn, New York

Regardless of the cause (whether it be earthquake, explosion, high winds, snow overloads, or construction/design defects) the result is typically the same - a hazardous and confusing combination of steel, concrete, wood and other materials that needs to be searched to determine if there are any victims to be rescued.

An important aspect of responding to collapses is *understanding the hazards* of the debris pile and the remaining portions of the damaged building. While there are many, many, considerations that must be carefully evaluated, this briefing focuses on just two:

- The remaining potential energy in the damaged structure.
- The stability of the remaining structure; from both a global and individual damaged element perspective. [Read more]

Training

Stone Security Engineering offers training classes for owners, contractors, design teams, oversight agencies, vendors and first responders. Classes can be customized to meet the goals and knowledge base of attendees and can vary from one-hour to multi-day sessions.

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