notes from the editor

Scott L. Melnick

My son Joshua is fascinated with Krypto the Superdog, who hails, of course, from Superman's home planet of Krypton. This inane but fairly innocuous cartoon has raised a number of interesting questions with my almost five-year-old son and recently he asked me why we couldn't fly like Krypto. I launched into a long-winded explanation about how Kryptonian physiology acts like a solar battery and absorbs the energy of a "yellow" sun. And then I pointed out that actually Krypto doesn't fly but rather is capable of prodigious leaps (though that doesn't quite explain the changes in speed and altitude—but hey, it's a cartoon!).

In retrospect, it dawned on me that I never answered his question but instead answered the one I wanted to answer. In much the same way, MKA's Jon Magnusson wondered out loud during a recent talk to the Chicago High Rise Committee whether NIST's $16 million study of the World Trade Center didn't start with the wrong questions. Rather than asking why the buildings fell, maybe we should be looking at why they stood up as long as they did. And rather than starting with the assumption that a review of the building performance of these unique structures under a singular event that far exceeded design levels will yield suggested changes to our codes, we should be studying the overall performance of our building codes and whether any changes are needed.

Magnusson also made a compelling case that some of the expected recommendations, particularly regarding the location of stairwells, will at best simply increase the cost of construction without increasing life safety and at worst may actually decrease life safety in the event of a more normal event (such as a fire). For example, moving stairwells from the core to the perimeter would substantially increase the amount of time it takes on average to reach a second stairwell in the event that the first one you go to is impassible. He stressed that he's a proponent of increasing life safety both for building occupants and first responders, but that any changes made should have both a rational and scientific basis and shouldn't simply be politically or emotionally generated.

Further, Magnusson urged that everyone who reads the NIST report (which should be available by the time you read this) or who hears a presentation on it ask six simple questions:

1. Can commercial buildings survive a B767 hit? Two B767's? A B747? An A380? (These are incredibly important questions because if building structures can't survive the airplane hazard then it makes no sense to try to make the other building systems "airplane survivable".)
2. For each recommended code change will NIST supply historical data that justifies the change? (Other than the WTC attack data—a non-code event?)
3. What code design hazards are NIST recommending and have these been studied for appropriateness?
4. What performance objectives under these hazards is NIST recommending and have these been studied for appropriateness?
5. Will NIST be conducting a trial design program to test their code recommendations in the real world before submitting change proposals?
6. Has NIST tested their design hazards and performance objectives for consistency in the different building systems?

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