

► BUILDING SAFETY

Can the Chicago High-Rise Fire Happen in BOSTON?

By Jim O'Neil



This past October, six people lost their lives when fire swept through the 35-story Brunswick Building in Chicago. The fire and the accompanying deaths have been analyzed and debated ever since.

Many authorities on fire safety rightfully characterized the incident as a wake-up call to prompt building owners and fire safety officials to look more closely at adherence and application of fire codes, life safety training, and general awareness on the part of people working and living in high-rise buildings. However, there is another perspective, one that is infinitely more encouraging. The critical flaws present in the Chicago fire are not typical of today's high-rise office buildings.

In understanding the difference, it is important to understand what went wrong in Chicago and why it would not likely occur in most buildings. The first issue is the building itself. The Brunswick Building was built in 1965 and sold to the local county in 1996. The age is important because the vast majority of improvements involving fire safety codes, building materials, and life safety training came after the high-rise tragedies of the late-1960s to mid-1970s. The most rudimentary life safety systems found in buildings built in the last 20 years are likely far superior to what would have been in the Brunswick Building when first constructed. Its sale to the county in 1996 is also important, because local governments are less likely than private owners to make necessary upgrades to buildings.

There is much discussion about the fire codes and the level of compliance with them. It is important to understand what codes are and how they're applied. A code is simply a regulation stipulating the minimum standards for the various elements of the life safety system.

Frozen in Time

As previously stated, numerous codes have been enacted since this building was initially constructed, many of which might have prevented this tragedy. However, codes are not retroactive, so they may not have been implemented. If a new code is enacted, buildings are not required to upgrade their systems to become compliant unless it undergoes renovation.

If, however, a code change is enacted as a law, full compliance is mandatory. Generally when such a law is passed, building owners are given a prescribed period of time to come up to code. The absence of pressurized stairwells, automatic-unlocking systems for stairwell doors, and sprinklers in most of the building would indicate that fire safety upgrades were at the meager end of the spectrum.

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The fire is believed to have started in a 12th floor storage room where, it is speculated, that boxes were piled almost to the ceiling. Once the fire broke out a general evacuation is said to have been ordered. It is still unclear who actually ordered the evacuation, but this was only the first problem. This uncertainty seems to have been characteristic of almost all aspects of the incident.

A county official characterized the fire as "very small" and "contained," yet most of the injured were located anywhere from six to 10 floors away from the actual fire. All of the fatalities were from a single stairwell on the 22nd floor.



PROPERTY Management

Adding to the general chaos were smoke-filled stairwells, confusing directives from fire officials, locked doors that should have been unlocked, and the list goes on.

All of these factors spelled disaster for the occupants of the Brunswick Building on that Friday evening.

Yet these same factors can be highlighted as reasons why occupants of most high-rise buildings can be encouraged.

The Brunswick Building, and relics like it, are not completely atypical but are definitely becoming the exception among high-rise office buildings. The vast majority of buildings have modern life safety systems that would make the Chicago tragedy next to impossible. In those buildings that still have older systems, upgrades are ongoing and comprehensive procedures and proactive life-safety training programs are used to enhance occupants' survivability in an emergency.

In most modern buildings, when an alarm is activated, only the occupants of the floor in alarm and the floors above and below are evacuated. Fire retardant building materials and compartmentalization significantly reduce the likelihood that a fire will spread very far. Oftentimes, the safest thing for occupants to do is just stay put. As previously noted, most of the casualties were from the 16th to 22nd floors. In most buildings they would not have even been in the stairwells trying to evacuate; they would have been sitting at their desks waiting for the fire department to get the fire under control and issue an all clear. In addition, most high-rise buildings today have some automatic systems that activate when an alarm comes.

One important system that could have saved lives is an automatic door unlocking system. When the fire alarm is activated all stairwell and access controlled doors automatically unlock. This allows occupants free access anywhere they need to go when trying to evacuate. Another system that would have saved lives is the stairwell pressuriza-



tion system. This system forces air up through the stairwells to keep the smoke out. It improves visibility in the stairwells as well as limits respiratory problems from smoke inhalation. These two systems which are present in virtually all of Northeast Security's high-rises would have made all the difference.

Practice Makes Perfect

The final component is comprehensive training and frequent drills. These programs obviously involve training the security staff so that they know precisely what to do in an emergency and how to ensure the safety of building occupants. They also involve training building tenants to know what is happening and how to respond in an emergency. Annual or semi-annual drills should be conducted to familiarize tenants with the sights and sounds of an actual emergency. Tenants should get an opportunity to actually hear the pre-taped message and evacuation tone; get to see exactly where the exits are and what it is like to be in a stairwell; and learn about the systems that come into play.

In truth, one can expect some element of confusion in an actual alarm situation, but it is significantly minimized through a solid training program. Occupants who understand what is happening, who know where to go and have a trained building staff that exudes confidence rather than confusion greatly increase everyone's survivability in a fire situation. Established procedures and comprehensive training can make a potentially life-threatening situation a mere inconvenience.

So what are the lessons learned from the Chicago fire? Those are still being debated, but the mayor has already proposed new fire-code changes to address some of the issues addressed here. One can only hope that it is a comprehensive and enforced upgrade and not just a day's sound bite. At least for myself and the tenants in my buildings, the lesson is to be grateful for the life-safety systems we have in place and continue to train, train, and train again. ■