

# Unsprinklered and Unprepared

*MGM Grand Hotel guests and employees found themselves in the middle of a disaster with no advance warning. Rapid fire and smoke spread killed 85 people and injured more than 600.*

On November 21, 1980, an employee of the MGM Grand Hotel in Las Vegas, Nevada, discovered a fire in a service area in one of the hotel's restaurants. While he tried to extinguish the blaze with a hose, someone else notified the fire department, which received the alarm five minutes later.

Despite the employees efforts, the fire spread into the hotel's casino, where highly combustible furnishings and contents, a combustible interior finish, and the large, undivided space helped to fuel the blaze. By 7:25 a.m., the entire casino had been consumed by fire.

Although the building was equipped with an alarm system, the fire left it inoperable as it spread to the hotel's upper floors through elevators, stairways, and shafts located at seismic joints in the high-rise tower. Hotel guests and employees in the tower slowly became aware of the fire when they began to see and smell smoke and hear people yelling. Some only became aware of the problem when they noticed helicopters circling the building. And some guests didn't even know about the fire until they saw it on television.

There were more than 5,000 people in the

hotel at the time of the fire. Some were able to walk away from the burning hotel without help, and others were rescued by firefighters, construction workers, and passersby. Many of the guests worked their way to the roof, where they were rescued by helicopters. It took nearly four hours to complete the evacuation of the hotel and, by then, 84 people had died and more than 600 were injured.

Most of the victims were found on the 20th through the 25th floors. Only 14 people died on the casino level. Two volunteer firefighters, who were hotel guests, died when the elevator in which they were riding opened on the main level and was overrun by the fire. Another victim died in a hospital months later, bringing the death toll to 85.

Several factors contributed to the fire's spread and the subsequent deaths and injuries, including the lack of fire-resistant barriers, the highly combustible interior furnishings and finishes, the failure to extinguish the blaze in its incipient stages, and the fact that guests weren't notified.

After the fire, the NFPA and others started to look more closely at certain fire protection problems. For example, the air change plenum in the upper floors of the MGM Grand was, in fact, the corridor. This meant that the space under the guest room doors allowed the smoke in the hall to enter rooms. This fire made it clear that, from then on, air change plenums would have to be ducts that could be shut in emergencies.

This fire also focused attention on the issue of evacuation and protected egress. As guests tried to escape, the stairways in the MGM Grand filled with smoke. Emergency exits that were supposed to be refuges weren't.

Another issue—one that hasn't yet been resolved—concerns alarm systems and what to do when they're destroyed by fire. The fact that the MGM Grand's system failed, leaving many guests unaware of the situation, eventually led to the requirement for emergency messages that tell hotel guests what to do during a fire. This includes letting them know who should evacuate and how they should do it. Usually, the first fire official responding to this type of incident will decide what messages should be delivered.

This fire also highlighted the power of sprinkler systems. After the fire, several photos were taken of the casino, which the fire completely gutted, and of the adjoining arcade, which looked as good as new. The casino wasn't sprinklered, and the arcade was. The sprinkler system, activated by intense heat, kept the flames from entering the arcade. Those pictures were worth a thousand words, and the push for sprinklered buildings moved ahead in full force.

**MGM Grand Hotel guests climb down from a 15th-story room after fire broke out in the hotel.**



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## DID YOU KNOW?

**1993**  
NFPA and the American Red Cross co-located NFPA's Fire Prevention Week kit.

The World Trade Center explosion and fire occurs in New York City.

**1994**  
The LNTB Champion Award Program is established.

The NFPA's New Building Systems Section is formed.

**1995**  
The LNTB Safe Cities program is started.

The bombing of the Alfred P. Murrah Federal Building in Oklahoma City, Oklahoma, kills 161 people and injures many more.

**1996**  
NFPA celebrates its 100-year anniversary.