

## Deadly Fire Hits 30 Year Mark

by M I C H A E L O ' B R I A N  
on N O V E M B E R 2 2 , 2 0 1 0

### **MGM Fire, November 21, 1980**

A fire that killed 85 people and injured nearly 700 occurred 30 years ago. The fire which is one of the deadliest in the United States at a hotel. This anniversary reminds each inspector about the need for studying the past and understanding how code changes have been implemented.

The MGM Grand Hotel/Casino was located at 3645 Las Vegas Boulevard South, City of Las Vegas (Clark County) which was occupied at the time of the fire has changed the shape of the Las Vegas strip.

Nevada (southeast corner of the intersection of East Flamingo Road and Las Vegas Boulevard South). Classified as Type 1 construction, it is a 26-story high rise hotel and casino complex (approximately 2,000,000 square feet). At the time of the fire there were approximately 5,000 people in the building. The fire which started in the deli and spread to the casino resulted in 84 deaths and an additional 679 were injured.

There was no automatic fire sprinkler system in the casino portion of the building, covered with materials without wall and ceiling finishes, and the hotel section of the building contained many unprotected vertical shafts. The building was filled with nonprotected openings that allowed smoke to enter and fill exit stairwells, and doors locked people out of the building once they exited into these stairwells. The fire is believed to have started from faultily electrical wiring. The smoke and other

products of combustion spread throughout the building.

**NFPA recent report sums up the findings:**

Investigators found no evidence that the hotel had executed an emergency plan or sounded an evacuation alarm signal. Nor was there any evidence of manual fire alarm pull stations in the natural escape path in the casino. The number and capacity of the exits from the casino were deficient, and the travel distances from certain areas of the casino to the exits were too long. Finally, there was no automatic means of recalling the elevators to the main floor during the fire to prevent people from boarding them. Ten of the MGM Grand victims were found in the hotel's elevators.

As a result of this fire, Life Safety Code® requirements for stairwell re-entry onto building floors if the exit stair enclosure becomes untenable were changed to include three options. Stairwell doors must now remain unlocked on the inside of the stairwell so that people can get from the stairwell back to guest room floor. Or they may be locked, but they must automatically unlock when the building's fire alarm system activates. Or hotels may use selected re-entry, in which there may be no more than four intervening floors between unlocked doors and signs must be provided to direct occupants to the floors with unlocked doors.

However, the most important part of revisiting the MGM fire, says Demers, is that it re-emphasizes how important it is to pay attention to, and enforce, fire protection basics. These include installing sprinklers and smoke detectors, enclosing exits and exit discharges, and checking the flame spread potential of interior furnishings.

### Resources:

- [NFPA Investigation Report](#)
- [Remembering the MGM Fire](#)
- [Official report](#)

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### Nick Markowitz Jr.



While codes have been increased and the value of fire protection sprinklers has been brought to the forefront to prevent these kinds of tragedy's, we have also allowed building codes to be delineated and lessened by the fact a functioning sprinkler system is in place .

This is a dangerous precedent in my opinion when there is not adequate enforcement to make sure those sprinkler systems are being tested and properly maintained and there no back up fire walls etc to stop a fires spread. How many buildings have I walked into around Pa. and surrounding states and found the sprinklers non functioning or completely turned off and AHJ has no idea.

I recently inspected a potential property for a dollar store in a shopping complex and found the entire sprinkler system has not functioned since 3 years ago in the complex when piping froze and broke and was never replaced.

What good does all these codes do when we rely on a sprinkler system to handle problems and eliminate fire walls and fire stopping etc which has known fire stopping quality's

We now want sprinklers in homes because of the light weight construction in homes and dangers it poses and how many of these sprinklered homes in future will go up in smoke because there was a problem with sprinkler system and home owner shut it off.

Yes sprinklers are the ultimate fire protection component but only when properly installed and maintained. Something I am not seeing.

We put stuff in but then there is no follow up.

R E P L Y N K

**Michael O'Brian**



Nick, I have to disagree with your viewpoint as it relates to the fire on the MGM fire. There were many code violations that did not include sprinklers on the fire. The intent was to remind us all how important proper code enforcement from the building owner to the AHJ is.

This fire was devastating and an important part of our code development history.

R E P L Y N K

**Nick Markowitz Jr.**



The Problem is Mike I can see this exact same tragedy playing out again some where here in USA because we never learn our lesson just look at the Station Night Club fire.

There are several people who should be in jail but where never prosecuted We put codes in place we inspect to make sure the stuff is in place but then never follow it back up. and this is when the tragedy happens. It is amazing what all goes on after the building inspector leaves. How many walls all of a suddenly appear etc etc.

when I do fire investigations for insurance company's and I pull the plan sets from AHJ and compare them to whats actually there it is amazing. the standard answer I get from AHJ is we did not know they did that and it is probably the same story with the MGM as well.

I knew a gentleman from Pittsburgh Pa. who survived the MGM fire and I worked with him to help increase codes here in Pa. but we kept hitting walls and finally he gave it up

we finally got a state wide UCC code which follows ICC in place 5 years ago 25 years after the MGM tragedy. and are things any better here in the state in some cases yes in most cases no its the same old installers not doing what there suppose to do and inspectors not trained well enough to know what to look for.

I am totally replacing a 3 yr old fire system for a new customer after his old alarm company did a horrible wiring job which allowed 120 vac to be back feed into the fire system and destroy it. the violations in wiring where clearly visible and the ICC certified inspector never caught it. He did make sure the strobes where exactly at 80" and pulls at 48" though.

because they where 1/2 " too high

So with all the codes and all the inspections etc. we are still not getting the job done. and yes there will once again be another horrible fire some where.

Just look at what happened most recently in the Midwest where the gunman set a mall on fire and some one turned the sprinklers off. and half the mall was destroyed. Had there been good solid fire walls it would not have been as bad.

We really need to take a comprehensive look at all aspects of fire protection and do some rethinking on it. Because this mall fire is once again going to show what is lacking in our codes.

R E P L Y N K

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**Peter J McLaughlin**

I look at both your points of view and each one has valid points. Thanks Mark for the reminder of the fire. It is a shame that code development only occurs when there is a tragedy. I work in the city of Cambridge MA, one of the big things in my city is having the manpower to do all the inspections that are required. I also believe in fire areas and fire walls that separate use groups, stairways and corridors. I don't care that there is a sprinkler system; I still would want at least a one-hour corridor in a B use group. Now if you have a sprinkler system, you do not need a rated corridor. That doesn't make much sense to me.

Peter

R E P L Y N K

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**C. W. Boss, Fire Inspector II,**

Gentlemen, While I agree that automatic fire sprinklers are a good thing, I believe the trend toward lighter weight construction allowed in the new ICC codes is unwise, a detriment and counter to all that has been learned from most large loss fires over the many decades past.

Since 1970, I've been one of the men behind the nozzle for many years, the company officer and command officer for many more in many types of departments; military, industrial and municipal, involved in structural and hazmat incidents as well as shipboard and crash rescue environments. Fire prevention as well as suppression, has proved crucial in all environs.

I decided after more than a dozen years on the line, that I could have greater impact on the safety of my community and my fellow firefighters by getting involved in design review, inspection work and working to mitigate hazardous conditions in buildings in my jurisdiction as much as possible BEFORE they became a problem.

At the line level in the various fire service organizations we may or may not be able to have any direct impact on how a building is built. It becomes incumbent on US as much as possible, whether fire fighter or fire inspector, to be as familiar as possible with the buildings in our jurisdiction or first due, their make-up (compartmentation, type of construction, inherent hazards due to construction or Use), their installed fire protection systems (if any and the state thereof).

Nowadays unfortunately, we have increased challenges of reduced budgets and all that goes with them, (fewer resources, personnel reductions, less training, etc) which make our jobs more difficult but no less important.

Where ever possible, up through the chain of command, via civic organizations, our labor representatives, any way we can; we need to lobby our various jurisdictions to rely more on proper fire separation and fire resistive types of construction in CONCORD WITH installed fire extinguishing systems, NOT in lieu of same in the built environment, to enhance protection in the built environment and maintain a commensurate level of personnel both on the line and to conduct inspections to ensure these buildings and their protective systems are being properly maintained.

Our department like many others has seen inspection staffs reduced of late, by as much as one half to two thirds due to tax revenue reductions and we've had to learn to live with the moniker "do more with less", that is a challenge we're all going to have to deal with in whatever way we can.

I believe the best way is to build protection into each structure by optimization of compartmentation and fire resistive construction, coupled with installed fire extinguishing systems and less reliance on installed fire extinguishing systems alone.

Building owners are going to do what is most expedient and least costly as they always have and as a couple of the previous commentors indicated, if systems break down or are shut-off it may prove to be detrimental to the building's owner(s), the building's occupants, first responders and the community at large due to lost jobs, lost tax revenues etc.

However, if the compartmentation and more fire resistive construction is there and we require the installed fire protection systems to be installed in such manner so they can be used even if the owner has chosen to shutdown the water supply, we may still have a fighting chance to save the structure in spite of the owner's ignorance.

R E P L Y N K

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