

FIRE PREVENTION AND BUILDING CODE ENFORCEMENT

By Richard Schulte

“Do you hear that? [Silence-no sirens.] That’s the sound of fire prevention working.”

Chief Tom Linkowski, Evanston Fire Department (early 1990's)

According to a report titled “*Fire Loss in the United States During 2009*” dated August 2010 and authored by Michael J. Karter, Jr. of the Fire Analysis and Research Division of the National Fire Protection Association (NFPA), an estimated 1,098,000 structure fires occurred in the United States in 1977. In 2009, the NFPA estimates that 480,500 structure fires occurred in the United States. In the 23 year period between the 1977 and 2009, the number of structure fires occurring in the US declined by 56.2 percent.

The same NFPA report also indicates that 5,865 Americans died in fires in dwellings in 1977. In 2009, 2,565 Americans died in fires in dwellings. Between 1977 and 2009, the number of fire fatalities occurring in dwellings in the United States also declined by 56.2 percent.

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The number of structure fires occurring annually declined by 56.2 percent between 1977 and 2009 for numerous reasons, including the following:

- Improved (safer) mechanical and electrical equipment
- Improved building construction materials (ignition resistance)
- More restrictive building/mechanical/electrical code requirements
- Improved new building/mechanical/electrical inspections by building inspectors
- Improved existing building inspections by fire inspectors

The number of fire fatalities in dwellings also declined by more than one-half for a whole host of different reasons, including the following:

- Fewer structure fires
- Smoke detectors
- Sprinkler protection
- Improved building code provisions relating to fire safety and fire protection
- Improved fire code provisions
- Improved new building/mechanical/electrical inspections by building inspectors
- Improved existing building inspections by fire inspectors

Given the increased use of sprinkler protection in both commercial buildings and in residential buildings, it is likely that the number of fire fatalities which occur each year will continue to dwindle.

What's interesting about the two lists above is that fire fighters are not included. Very little, if any, of the progress against fire that we've made in the last 20+ years or so can be attributed to fire suppression personnel. In other words, the real "fire

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heroes", the people who are responsible for saving lives by either preventing structure fires or by controlling structure fires, are the professionals who specialize in building inspections, fire prevention inspections, the architects/engineers and technicians who design buildings or who participate in code development and the trades men and women who build our buildings. Unfortunately, rarely, if ever, will you ever see these folks being honored as heroes. The public is still under the impression that the fire suppression crews with the big trucks, lights and sirens are the heroes.

Not only do building inspectors and fire inspectors contribute to the "lion's share" of fire safety provided for the public, but the men and women who perform these jobs are also responsible for improving fire fighter safety. The statistics show that it is quite unusual for fire fighter fatalities to occur in buildings protected by a sprinkler system. If you think about it, when was the

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last time you heard of a major high rise building fire? Major high rise building fires rarely occur these days, not because of fire fighters, but because most high rise buildings in the United States are protected by a sprinkler system.

Today, most major structure fires occur in residential occupancies which are not protected by a sprinkler system. Like major high rise building fires, major fires occurring in residential occupancies can be almost eliminated by providing sprinkler protection. Providing sprinkler protection in dwellings is like sort of having a company of fire fighters in every unit, only better. Sprinkler protection is already at the scene; sprinklers know exactly where to put the water; sprinklers are impervious to smoke and heat; sprinklers injured in a fire don't need medical treatment, you just replace them after the fire; sprinklers don't need health insurance and sprinklers don't need retirement benefits; sprinklers never threaten to strike. In short, sprinklers are almost the perfect fire fighters.

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This is not to say that sprinkler protection can totally replace fire fighters. Sprinkler protection can't put out vehicle fires; sprinklers can't provide emergency medical treatment to victims, so forth and so on. Fire fighters will always have plenty of

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work to do, but as more and more of our buildings are protected by sprinklers and the number of structure fires continues to dwindle, the need for fire fighters to provide the primary role in fire protection will dwindle and the other services that fire fighters perform will become more prominent. One only has to look at the ratio of EMS calls to fire calls to understand that this is already happening now.

Perhaps the above is the reason that most fire fighters dislike performing fire prevention duties and often times simply refuse to perform those duties. That's unfortunate because those fire prevention duties save fire fighters lives. Of course, I expect that the fire line personnel will be upset with the above, but the logic and reasoning on which the above is based sound.

If you're concerned about fire fighter safety, then it's time to start to take your fire prevention duties seriously and thank the fire prevention and building department personnel for making your job easier.

Regards-

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Editor's Note: Richard Schulte is a 1976 graduate of the fire protection and safety engineering program at the Illinois Institute of Technology (IIT) in Chicago. Schulte worked as the fire protection engineer for the San Jose (California) Fire Department from 1980-1982. Schulte was named as one of ENR's "Top 25 Newsmakers of 2004" by Engineering News-Record for his work on critiquing the National Institute of Standards and Technology (NIST) investigation into the collapse of the World Trade Center towers on 9/11.