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## **FIRE FIGHTER SAFETY AND THE CHICAGO FIRE DEPARTMENT-PART 2 (Fires in Abandoned Buildings)**

By Richard Schulte

Around 7 am on Wednesday, December 22, 2010, the Chicago Fire Department (CFD) responded to a nuisance fire in an abandoned one-story building on Chicago's southeast side. Although the Chicago Building Department had cited the building

owner for code violations in 2007, including the deteriorating structural capability of the roof, fire fighters were sent into the building and onto the roof. Two fire fighters, Edward Stringer and Corey Ankum, sustained fatal injuries when the roof of the building collapsed. Seventeen other fire fighters were injured. Firefighter Stringer was laid to rest yesterday. Firefighter Ankum will be laid to rest tomorrow.

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In the fire service, abandoned buildings are know as “death traps”. Given this, the question which needs to be asked is whether or not both fire fighters who were fatally injured would be alive today if the Chicago Fire Department had followed

recommendations for fire fighting safety issued by the National Institute for Occupational Safety and Health (NIOSH) and if representatives from the Chicago Fire Department had attended conferences on fire fighter life safety. In my opinion, there is no doubt that the two CFD firefighters died needlessly.

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The following are excerpts from NIOSH 2005-132 and NIOSH 2010-153 and from the National Firefighter Life Safety Summit held in Novato, California on March 3-4, 2007.

**NIOSH 2005-132**

**Preventing Injuries and Deaths of Fire Fighters due to Truss System Failures**

April 2005

***“WARNING! Fire fighters may be injured and killed when fire-damaged roof and floor truss systems collapse, sometimes without warning.”***

***“The National Institute for Occupational Safety and Health (NIOSH) requests assistance in preventing injuries and deaths of fire fighters due to roof and floor truss during fire-fighting operations.”***

*“The number of fire fighter fatalities related to structural collapse could be significantly reduced through proper education and information concerning truss construction.”*

*“Lives will continue to be lost unless fire departments make appropriate fundamental changes in fire-fighting tactics involving trusses.”*

*“Enter preplan information into the dispatcher’s computer so that when a fire is reported at preplanned locations, the dispatcher can notify by radio all first responders with critical information [Dunn 2001].”*

*“Use defensive strategies whenever trusses have been exposed to fire or structural integrity cannot be verified. Unless life-saving operations are under way, evacuate fire fighters and use an exterior attack [Brannigan, 1999; Dunn 2001].”*

***“Ensure that fire fighters performing fire-fighting operations under or above trusses are evacuated as soon as it is determined that the trusses are exposed to fire (not according to a time limit).”***

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## NIOSH 2010-153

### Preventing Deaths and Injuries of Fire Fighters using Risk Management Principles at Structure Fires

July 2010

**“WARNING! Fire fighters are often killed or injured when fighting fires in abandoned, vacant, and unoccupied structures. These structures pose additional and sometimes unique risks due to the potential for fire fighters to encounter unexpected and unsafe building conditions such as dilapidation, decay, damage from previous fires and vandals, and other factors such as uncertain occupancy status. Risk management principles must be applied at all structure fires to ensure the appropriate strategy and tactics are used based on the fireground conditions encountered.”**

*“Fire-fighting operations should be limited to defensive (exterior) strategy if the structure is judged to be unsafe and in any situation where the risks to fire fighter safety are excessive.”*

*“Inspect and preplan buildings within your jurisdiction.”*

*“Enter preplan information into the dispatch computer so that when a fire is reported at a preplanned location, the critical information is provided to all responding units.”*

*“Adopt and enforce a standard system of marking dangerous abandoned, derelict, and vacant buildings, based on a prefire assessment of their structural conditions and other risk factors, in cooperation with municipal agencies and local authorities such as local housing authorities.”*

*“Ensure those in charge of fire incidents (e.g., incident commanders, chief officers, safety officers) are fully trained to fulfill their responsibilities and obligations in the execution of their duties.”*

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## 2007 National Firefighter Life Safety Summit

Novato, California, March 3-4, 2007

*“A culture that takes pride in confronting potential death with raw courage has difficulty adapting to health and safety concerns as organizational priorities.”*

*“The cultural challenge is a confrontation between the traditional values and a new set of values that has evolved with changing circumstances. The new value system views firefighters as highly-trained, technically-skilled and well-equipped professionals who value the importance of prevention and public education—who are prepared to manage complex and dangerous situations – and who also have the courage to face imminent danger when there is no other alternative. This evolution has already occurred in the fire service in many other countries and it must be accomplished within the American fire service before the Firefighter Life Safety Initiatives can be fully implemented.”*

*“The new value system views firefighters as highly-trained, technically-skilled and well-equipped professionals who value the importance of prevention and public education. . .”*

*“Actively promote a safety culture within the fire department. . .”*

*“Reward and recognize safe behaviors and practices. Stop rewarding unsafe and inappropriate behaviors.”*

***“Accountability implies that there are serious consequences for failure to follow established procedures and apply appropriate risk management principles.”***

*“Risk management refers to a systematic process to identify and evaluate the risks that are present in a particular situation and determine the appropriate course of action. The evaluation process must consider the risks in relation to potential benefits or anticipated outcomes of a course of action.”*

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*“Risk management guidelines and procedures are intended to limit the exposure of firefighters to potential death or injury in situations where the potential benefits do not justify the risks, by identifying acceptable and unacceptable risk situations.”*

*“Adopt and implement a pre-incident survey program to identify the risks and hazards associated with individual structures and occupancies.”*

*“The initiative that addresses empowering all firefighters to stop unsafe practices . . .”*

*“At the most fundamental level it calls for all firefighters, at any rank or level within the organization, to simply stop doing things that they recognize as unsafe practices, such as habitually disregarding safety rules and circumventing safety procedures.”*

*“Any firefighter, who believes that a situation is dangerous, has a responsibility to call attention to the problem.”*

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## **Discussion**

The recommendations regarding fire fighter safety contained in NIOSH 2005-132 and NIOSH 2010-153 certainly apply to the abandoned building fire which occurred in Chicago on December 22, 2010. (The portion of the roof which collapsed was supported by wood trusses.) If the Chicago Fire Department had heeded the NIOSH recommendations, would two fire fighters have died and 17 others been injured a week ago? There seems to be little doubt as to the answer to that question.

The “official explanation” as to why fire fighters entered the building was that homeless people had used the building for shelter against freezing temperatures and, hence, may have needed to be rescued. Given that explanation, it seems reasonable to assume that the reason fire fighters were on the roof of the building was also because homeless people may also have been trapped on the roof. The “official explanation” is nonsense—there were no bodies of civilians recovered from the building and the probability that homeless people did not escape from the one-story building prior to the arrival of fire fighters was extremely low.

The real reason for the death of fire fighters at this fire is the “hero culture” of the Chicago Fire Department. This culture is typified by the Fire Commissioner. Fire Commissioner Robert Hoff’s bio posted on the City of Chicago website mentions a long list of accomplishments and expertise, none of which deal with the most effective and efficient means of providing fire safety for the public, fire prevention. The report on the National Firefighter Life Safety Summit held in March 2007 includes an attendance list. Based upon the list, no one from the Chicago Fire Department attended.

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As has been noted previously in other articles, the City of Chicago has a building code which was one of the best in the mid-1970's. The Chicago Building Code has changed little in the last 35 years. Chicago may be the last city in the United States that has not adopted a model building code.

What is also of interest is that there appears to be no discussion of adopting an ordinance which would mandate that new low rise apartment buildings and 1- and 2-family dwellings in Chicago be protected by a sprinkler system. The statistics from the adoption of code requirements that new dwellings be protected by a sprinkler system coming out of Scottsdale, Arizona and Prince George’s County, Maryland clearly show the effectiveness of residential sprinklers in protecting the public from fire fatalities in their homes. (Ninety-five percent of the fire fatalities which occur in buildings in the United States occur residential occupancies.) The statistics from these two communities indicate that fire fatalities in dwellings are completely eliminated when dwellings are provided with residential sprinkler systems. Any fire commissioner of the Chicago Fire Department “worth his salt” would be a strong advocate for residential sprinklers, regardless of opposition by Mayor Daley and his cronies. Over 100 suburban communities surrounding the City of Chicago have adopted residential sprinkler ordinances.

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If the City of Chicago is to remain a “world-class” city, it needs a modern fire department, rather than a fire department “steeped in tradition”. It’s time for the Chicago Fire Department to stop living in the 1970’s and embrace “intelligent” public fire protection, rather than the “hero culture” fire department that exists now.

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In my opinion, the Chicago Fire Department did not learn a thing from the Cook County Administration Building fire or the Sofa Super Store fire in Charleston, South Carolina. It’s time for the Chicago Fire Department to catch up with the suburban fire departments which surround Chicago.

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Aspiring to mediocrity is simply not acceptable. What better time to accomplish the needed changes in the fire department than while Mayor Daley is on his way out the door.

**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.

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