



# ***CHIEF'S FILE CABINET***

***Ronny J. Coleman***

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## The Bleeding Edge

Imagine you are a fire chief at the end of the Civil War. Some guy comes into your office, sits down and says he has come up with a brilliant idea to stop all fires in the future. He wants to put a bunch of pipes overhead in textile factories and drill tiny holes in them. Then he wants to put a valve on the system and attach it to a pressurized water system so that when a fire occurs in his textile factory it will result in opening the valve and the pipes will distribute water throughout the entire building. I can't help but think that most fire chiefs of that era probably thought that guy was nuts.

However, that is just exactly how the concept of overhead sprinklers got its start. It was, in the words of Steve Martin, "a wild and crazy guy" who offered up a new approach to solving an old problem. Today we call that "thinking outside of the box". Unfortunately, almost all of the thinking that goes on outside of the box is considered to be bizarre, threatening and in some cases terrifying. Technology, whenever it advances on any level, almost always has to go through a stage in which it is considered to be threatening.

Well, contrary to many people's belief, I was not privileged to be at any of those meetings with fire chiefs of the 1850's and 1860's. But, I have had ample opportunity to witness the evolution of technology over the last 48 years. It has been every bit as controversial and as leading edge as it was 150 years ago. The current generations of individuals who are confronted with new technology have reason to be concerned. This is because technology is increasing at an exponential rate. Moreover, some of it is good and some of it isn't so good

How this relates to the world of the fire service operations is through the adaptation of technology that is constantly altering our built fire environment. In other columns and articles I have written about the subject for example of lightweight wood construction. The development of the lightweight wood construction concept is drastically altering the underlying assumptions of our operations divisions. Yet, the process of approving these materials and placing them into buildings has already gone through the filter of the building department and the code approval process. Somehow or other there is a disconnect between technology adaptation and our operational implementation of its impact.

But structures are not the only issue. We have an emerging issue today of electric vehicles. That is going to have an impact on the way that homes will be wired at some point in the future. It is going to have an effect on the manner in which our firefighters are going to be required to cope with vehicle fires and automobile accidents. Then there is the entire topic of the "green building". As buildings become more air tight to preserve energy they become much more difficult to ventilate. As buildings become more technology intense they begin to create situations that our operations must be aware of.



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However, as was alluded to earlier there is a disconnect. There is a contention in some fire service circles that if you want to terrorize an operations person just threaten them by telling they are going into the bureau. It is unfortunate but many people regard the bureau as having little or nothing to do with the real work of a fire department. In actuality, nothing can be further from the truth.

My old friend, Charlie Rule, used to use the phrase that all buildings are burned down according to code. Whatever code was in place when the building was constructed creates a set of circumstances in which that building will be consumed by a fire when it does occur. The role of fire prevention is to create the built environment. The degree to which we in fire prevention authorize and/or allow certain conditions to exist, is creating the problem for future firefighters.

The term “disconnect” in the previous paragraphs is not one of intention. It appears to be one of omission. I would suggest to you that many things come to the attention of a fire prevention bureau but are never brought to the attention of fire suppression until some kind of a catastrophic event causes it to be an area of concern.

Yet, when buildings are being constructed, and new products are being allowed in the construction process, there is an opportunity for the operations division to be in partner in understanding the phenomenon. How do we get that relationship back?

One observation that I have made over the last ten years is that more and more fire departments are becoming so engaged in emergency medical services that they are losing their basic inventory of fire knowledge skills. I do not wish to start a raging debate as to whether or not it is a good or bad idea to be in the emergency medical business. But, I would like to raise the concern that unless firefighters are as knowledgeable in building construction and fire behavior as they are on anatomy and physiology that fighting a fire is now becoming much more dangerous than it has been in the past. Because of communicable diseases and a host of other problems we now “suit up” a firefighter to look like he is going to go to the moon in treating individuals where there is a large amount of blood being splattered about. Yet, we often expect a firefighter to go into a building that he has never been in before that may have only been constructed in the last three to five years with a limited amount of knowledge about what is behind that drop ceiling.

The fire service is a 24 hour a day business. Because of the intensive workload on emergency medical services, more and more fire departments are struggling with their training programs also. How are we going to close that gap?

One concept I would propose is that we in fire prevention encourage the development of building construction familiarization scenarios. In other words, every time there is a new housing tract that is built, a new commercial building that is raised, a new shopping center that is going in, that information



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relative to that construction project should be forwarded to the operations division and a strong recommendation made that they go visit that site at sometime during their next couple of tours of duty.

You will note that I am not emphasizing that they have to do any specific documentation. I remember back in the early days of my career where we had a concept called “area familiarization”. We used to get on the fire apparatus on a Sunday morning and drive around our area looking for the anomalies that would affect our Code 3 response. Things such as gated communities, speed bumps on the road, narrow access points, etc. were carved in our memory by the mere fact that we were exposed to them without the benefit of stress.

Building construction familiarization is not the same as pre-fire planning. Nonetheless, it may be the only connection that we can build between our operations in fire prevention division to diminish the impact of emerging technology. It is time that the fire service recognizes that society is going to change around us whether we like it or not. The technology that I alluded to in previous paragraphs is continuing to evolve driven by social factors that are outside of the influence of the fire service.

The test of our professionalism is how well we are able to interact with that process.

One of the solutions that is offered in almost every technological disconnect case is a regulatory solution. In other words, prohibit something. The reality is that we have done a very good job of regulating the fire environment over the last ten years. I would submit that the modern building code, in conjunction with the modern fire code, have significantly altered the nature of fire in most of our major urban centers. Every once in a while we will get a serious working structure fire but if you examine that fire, it is most often in a building that has a few years on it.

That is not to say that we don't have fires in new buildings because we do. But, the probability of that new building having an automatic sprinkler system, a fire detection system, a fire alarm system, or maybe even a fire brigade has increased significantly.

Our challenge is to build some bridges. This column is in Sprinkler Age. It is probably unlikely that the operations division will even read this article. How about tearing it out and making copies and distributing it to all of your battalion chiefs today?

They need to know that you are part of their team also. In many ways, the fire prevention bureau is the reconnaissance platoon for the infantry that must go into battle. Fire prevention bureaus usually see everything in advance. The degree to which you can serve as an early warning mechanism to an operations division is probably going to be the degree in which firefighter safety will eventually be a reality within your organization.



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If we went back to that early era in which that inventor proposed to a fire chief that we put pipes in buildings and drill holes in them, we can probably appreciate why that proposal terrorized the local chief. It may well have been where the whole argument started about water damage from sprinkler heads for all I know. On the other hand, if we were able to sit behind that chief's desk and listen to the dialogue about the logic behind why it was being done, we would begin to see the origins of modern fire protection philosophy.

Technology and tradition in many ways are mutually exclusive. If we believe that everything remains as it always has been and ignore the impact of technology, we are in danger almost every day. If we ignore the philosophy of why fire protection needs to be built in and dismiss the use of technology, then we are in danger of a building we allow to be built. If we embrace the idea that the traditional way of looking at technology is to master and understand it so thoroughly, that you can handle it under fire conditions then I think we are moving in the right direction.

So, how about it, fire marshal? The next time that they have a staff meeting and it comes around to your turn at the table to talk about what is going on, how about giving your operations people the benefit of your set of eyes on the built in fire world. They might roll their eyes upward and they might act as if they are disinterested. But if I know most operational people, the smart ones will put that information in the back of their minds and make sure that they don't make a mistake when confronted with an emerging problem. Now that's not a bad outcome is it?