



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

***Ronny J. Coleman***

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## Burn n' Bubble; Toil and Trouble

In a scene from Mac Beth, witches are seen throwing various grisly components into a pot, and predictably gloom and doom for the future. It has become the symbol of dire prediction through the observations that toils and troubles will soon follow.

In my opinion we are creating a form of witches brew ourselves, and it counts in some future toils and troubles. This one's so very close and yet so far away that it is probably not on many radar screens. What I am referring to is the possible long-range consequences of managing fires upon the quality of air and water in our communities.

Not our problem you say? Not yet, I say! Soon it could be. And here's how: More and more of our communities are impacted by the products of pollution that following the aftermath of civilizations activities. Actually, this is not a new phenomenon at all. As far back as the 1600's there are cases where localized pollution has made quality of life difficult for specific areas. Classic examples are the indirect "fogs" of London from the 1800's and the air pollution from brush fires that plagued Los Angeles and every outpost the Spanish government in California in the 1700's.

What has changed in scope and immediacy is the exponential increase in people and problems, not the least of which day to day activities cause pollution in themselves. The most visible examples form of our last century is the problems of smog and the depletion of the ozone layers. Global warming is a problem so far away it does not seem likely to impact a person or their family, much less the fire service.

But, have a major chemical spilling the city, order one evacuation and then keep people out of their homes for 72 hours and see the reaction you get. Have a "dirty air" day so bad that families can't send children to school or engage in outdoor recreational activities and watch the response. Environmental elements are seemingly becoming a force to be reckoned with in our cities and suburbs.

Forces have already been marshaled to deal with the broadest of these issues. One situation that most of the readers of this column are familiar with the fact that fluorinated hydrocarbons, i.e., Halons, are on their way out as a result of the Montreal Accord. This has forced the fire service into reviewing alternatives. Others may be aware of the fact that some states have forced workplaces to try trip-reduction programs to lower air pollution.

What is happening is that the deliberate, conscious acts of people contributing to pollution or the environment are being resolved. In the future we may have electric cars, and blue skips. But it is also possible we will not!



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You see, the handling of major emergencies does not always result in elimination of accidental pollution acts that go un-noticed. In the case of a major release of gases, point sources can be identified and fixed. Non-point sources can be regulated and forced to change. Accidental acts need to be protected. That's where we come in. Fires are "accidents" in most people's minds. In fact, most are not, they are predictable outcomes of events that are bound to happen somewhere, sometime, Fires produce two things; air pollution through smoke, and contaminated water from run-off.

That's where we, the fire service comes in. So far, we are not being held accountable for off-site protection of either. But don't be so smug. Already there have been lawsuits against property owners over off-site consequences of releases. And, fire agencies have been sued in the recent past for what they did or did not do to prevent an off-site consequence of a fire. There is an event horizon out there somewhere the idea that a fire agency, could, or should have known that a given set of circumstances was going to pollute either the air or the water and we should have acted to mitigate it. When will it happen? I don't know. Maybe we can even dodge that bullet.

That's where built-in fire technology comes in. What if a fire is contained with so little water that it never goes off site? What of these is so little smoke that the plume never reaches detectable levels off site? In both cases exposure to liability seems less likely.

I see three components of this to be under our purview. The first of these is the role of the fire prevention bureau; the second is under the purview of the operational aspects of a fire agency. The third is under the overall requirements of local governments.

The fire prevention bureau and the fire marshal could be one of the best places to start mitigating accidental point discharges. This is manifested through a strong code enforcement program that emphasis the role of detection and warning technology, the well spread use of automatic sprinkler systems, strong support for compartmentalization and containment or hazardous materials.

I don't believe too many people have even thought of fire prevention as an environmental strategy. But think about it. More and more you see headlines where major fires have resulted in environmental concerns. As we build bigger and bigger buildings, as we concentrate more and more fuels into some of our key occupancy classes we are creating potential point sources that could result in tons of pollution in a short time frame. No fire, no pollution.

One of the points we should be placing emphasis in seeking higher levels of built in fire protection is that these improvements, in some cases, could be viewed as environmental precautions. You note I say some cases. This is not a sweeping generality. The fire codes are already pretty comprehensive with respect to built-in improvements. The idea here is to make some that any proposal to reduce either alarms or sprinkler technology should be rebutted with this point, when appropriate.



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Perhaps an example might work here. I can recall an event early in my career when I responded to a fire in a plastic pipe fabrication factory. It was a dirty fire. The smoke was laden with black particle matter that clung to everything it touched. However, this was the early sixties and neither consequence was dealt with only endured. If we had that same fire today the third alarm assignment would be a task force of environmental agencies and attorneys for both sides.

Know that now I had a similar occupancy I would to limit both offsite consequences by advocating improvements in limiting off-site consequences.

Our sisters and brothers on the fire line need to be more aware of this problem too. Actually, I believe most knowledgeable incident commanders have a sense of this already. I am advocating that we heighten this sensitivity. Perhaps we need to add a member of every department's fire prevention bureau to the ICS structure as the "Environmental Assessment Officer". We tend to focus in getting water on a fire, and yet lose sight of the consequences of contents burning.

The term "fire flow" actually contains the one of the components we are discussing. Take a structure with a 1,000 gpm fire flow. Apply that fire flow on one home, for one hour. Yes you have 60,000 gallons of water to account for. Please note I did not say contain. I think we already know enough about that to use it on really hazardous situations lie hazardous materials events. I am proposing that operational incident commander start examining the effluent from their fire before someone else comes along and does it for us. Someone with a notepad with a federal agency logo, and a pad of violation notices.

Awareness precedes understanding. That's what I am talking about here. Raise the level of awareness of the problem within our own structure and we cannot be faulted for lack of consideration. Heavily urbanized fire departments ought to be looking at this section right now. Not too long ago I witnessed an incident where run-off water was reduced because of the incident commander, realizing the contamination from the liquid was a serious containment of the problem chose to shut down streams aimed only at the burning building and concentrated on exposure.

Which leads me to strategy number three. That is to develop an environmental inventory capacity in local government in order to assist incident commanders in making more enlightened decisions. Right now, the ability to obtain this kind of data exists but to re-use a fire ground term, the reflex time is terrible. Most state or federal agencies can be timid to respond to field incidents with a sundial. They are not first responders they are located regionally or nationally to go to the largest and most significant events. That's probably sufficient for their mission, but may not be sufficient for further needs.

When I was first contemplating this column I thought of suggesting we take this on as part of our hazardous materials mission alignment. But not everyone has been given the assignment. Not



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everyone that has been first responding obligations has been given technical support to go beyond that. Hazmat teams are often regional or area wide resources that respond to mutual aid deployment.

Instead, I came to the conclusion that this should be a responsibility of local government. If they want to give the resources and support to the fire department, so much the better. The concept is simple. Develop the ability to monitor downward down structure discharge of off site situations in real time with fire suppression.

I cannot believe with current technology that this cannot be achieved fairly easily with off the shelf solutions. There already is hardware that can almost do some of this stuff automatically. And, as should be obtained, it doesn't need to be displayed every time an emergency occurs, only when the emergency exceeds some threshold where air and water are negatively impacted. The capacity to do this is not intended to be labor intensive as much as it is intended to be technological intensive.

Right now there is no call from anyone to do this. So you might say; why bother. My attitude toward the advocating of such an approach is bound to the simple observations that over the last thirty years the fire service has gone from being the knight on white horses to the more genetic symbol of a rare horse that when he wins is praised and when he loses is criticized.

In either case, there is an old underlying saying, when your horse dies, get off it.

Unsaid, but implied is the idea that you find a new horse to ride. One of the horses that we might find ourselves astride is the one with the name of environmental quality. Rather we be proactive in this arena then wait until we find ourselves answering to someone who is telling us that the fire and or firefighter efforts are contributing to environmental damage.