



CHIEF'S FILE CABINET

Ronny J. Coleman

Change Your Calendar; Change Your Detector

One of the most successful public relations campaign next to Smokey Bear's admonition that "only you can prevent forest fires" is also touted by a creature. It's the pink rabbit, with his drumbeat advising the public to "change their clock, change their battery". If you have not heard of either campaign you must have been on the moon for a while.

Both messages resonate with the public. They work. But, neither tells the whole story either. In the case of Smokey's message there is a growing concern that prevention of all fire in the forests is an ecological problem. But, I won't go there today. I want to discuss the rest of the story about the frenetic rabbit with the recognizable drumbeat. Every year for some time now the campaign to remind people that there is a need to change their smoke detector batteries because they do lose their potency over time.

The concept that explains this need is called "graceful degradation". I have written about it before in Sprinkler Age. The basis for this concept is that all devices that are mechanical are in their best condition the day they are installed, but begin to deteriorate by very small increments every day. And, of course, there is a point in time when that deterioration results in the device not performing to its designed specification. What makes it a "graceful" reduction is the fact that each element of deterioration is so small it cannot easily be observed. It is the collective, or accumulation effect of these very small changes that must be reckoned with sooner or later.

If you think about it this concept is truly the basis for all most all fire inspection activity. We go back into buildings, year after year to see just how badly things have deviated from what we want to see present.

In some cases, things change so little we hardly notice. In others, people damage, remove, or otherwise modify things to a point where we have to issue a notice to maintain something – that, in the simplest of terms is why we have inspection cycles.

Now, let me introduce a new term to you; technical obsolescence. That term is used to describe something that may still work, but for one or more reasons it is technically out-of-date. A single version of obsolescence is the code put on your half gallon of milk. When you buy it at the grocery store, there is a notice that says; "use by a certain date". The theory is that the milk, while still being useable is not guaranteed to be safe – or even drinkable, after a certain time has elapsed.

Well, believe it or not – the concept of technological obsolescence is rearing its head in the field of smoke detection and most everybody is aware of its very existence.



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Remember back in the 1970's when smoke detectors were first introduced? I can recall one detector that was about the size of a shoebox when installed. Was it ugly? You bet – Did we still insist it was a good thing? Sure we did. Thousands, no hundreds of thousands of those detectors hit the shelves of stores all over the country. We got them installed; and a significant number are still there.

Do they still work?

Now that a really good question. And, I am almost positive you don't know the answer.

Remember our next battle cry? It was all about mandating them in residential occupancies. There were debates over which type worked but which types gave false positives, why we needed hard wired as opposed to battery powered.

Question again? What is the ability of the fire service to adequately inspect any of these detectors to assure they are still functioning? The answer to that question may just be the reason that the latest edition fire codes contain some provisions that may go unnoticed.

I am referring to the recent changes in the 2002 edition of NFPA Pamphlet 72, specifically paragraph 10-4.6 (replacement of smoke alarms in one and two family dwellings) which states that smoke detectors should be replaced when they fail operability tests, but in no case should be older than 10 years from the date of manufacture.

Think about that. How many smoke detectors do you think have been installed in your community designed either to be battery powered – or hard wired, that are now over 10 years old. Think about this; how many smoke detectors are sitting on shelves or hardware stores, or other providers that have been there for several years before anyone has purchased them. Think about this; you get a fire tonight in your town and the smoke detector fails to perform. How would you conduct the investigation to determine the facts of the case with regard to potential liability?

As usual – no good deed goes unpunished. We have lobbied, advocated, legislated and educated the public to believe that early warnings are essential and we find out that safety has a curfew on it. As if the adoption of the 2002 version of Pamphlet 72, the public and the AHS, have both been put on notice that something should be done to get rid of ten-year-old detectors. A teen-aged detector is a potential target of opportunity for any legal effort to transfer blame when a smoke detector does not do its job.

I know what you are thinking. This provision is probably un-enforceable? But is it? What about considering the fact that we should be notifying the public of this provision at the same time we call for a battery exchange – what about updating on public education materials to include a chief to warn the public that all detectors over ten years old are not in compliance? What about adding provisions to



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escrow instructions that require a statement of compliance that detectors that are less than ten years old when property changes hands. Right now many localities have a provision to assure the detector is there – but no provision to assure it is in compliance with the recent provision or date of manufacture.

This scenario is not a trivial consideration. Why do you think that this provision has been included in this code? What facts – or facts, support the idea that a ten-year-old detector is likely to not function correctly, with or without a sufficient power source. Frankly, I don't know, but I would think that at least one consideration is that manufacturers of these detectors may be concerned about long-term liability.

For many people in the fire service the smoke detector issue is ancient history. After all, most of the difficult parts were over 3 decades ago. This one minor language provision in the code may not be the same as tossing a big rock in a small pond, but there is a ripple effect.

Recent headlines (or at least Internet messages) indicate to me that vigilance is still required. A recent discussion sponsored by Ronald Siarnicki of the National Fallen Firefighter Foundation about the testing provisions of a detector that was being sold clearly points out that we need to remain vigilant about the technology.

Nothing should be taken for granted here. I have heard the argument by building industry folks that if smoke detectors are installed residential sprinklers are not needed. Does this change that argument at all?

What will be the next discussion item? Maybe the next evolution in detection will be the “disposable detector”, one in which the battery and detector both go into the land fill (or in some cases – some form of recycling program). With cost of technology continuing to spiral downwards, and with our “modular” approach to technology – perhaps it will be easier to replace it with a new one, mentally, perhaps that next step in smoke detection will include, change your mind, change your detector.

In any case, we need to remember that as the authority having jurisdiction, we need to continue to remain vigilant to assure that all forms of built-in fire protection work when we need them to work. The price of that vigilance is eternal concern.