

## Leadership in fire protection: an oral history series

### Ronnie Coleman on the Evolution of Fire Sprinkler Protection in San Clemente, CA

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Ronnie Coleman – RC

Ed Metz - EM

**EM** - This is Thursday, October 13th, 2011 and we have with us Chief Ronnie Coleman former State Fire Marshal of California to talk about his experiences with residential fire sprinklers, welcome and thank you for coming on this rainy day.

**RC** - I'm delighted to be here.

**EM** - Can you begin by telling us about yourself, outlining your career?

**RC** - Well, I'll give you the short version because I've been around a long time. I started off as a wildland firefighter in the 1960s right after I got out of the Marine Corps and I went on to the Costa Mesa Fire Department until about 1963-64, went up thru the ranks and got promoted to the deputy chief's position eventually and then I got promoted to fire chief for the city of San Clemente and that was kind of a seminal change in my career because San Clemente was a very small community at the time and Costa Mesa was a fairly larger one so I kind of went to a smaller department. I served in San Clemente for 13 years and then I went to Fullerton as the fire chief there and I was there for almost nine years. And then I left Fullerton to become the State Fire Marshal for the State of California. I retired as the state fire Marshal and deputy of what they call Cal Fire.

**EM** - As I learned in your superb book, Alpha to Omega, the Evolution in Residential Fire Protection, published in 1985, the early, groundbreaking work begun in Orange County in the 1970s on residential fire sprinklers helped set the stage for later efforts elsewhere. Particularly the idea of residential fire sprinklers being a means of cost avoidance in fire protection. Can you describe for us these early efforts in Orange County?

**RC** - very easily, actually it started for me personally when I was in the operations division of the Costa Mesa Fire Department. I tell the story, I keep it as brief as I can for purposes of this but I went on a fire in a yacht building one day where every sprinkler head in the system had been turned on, it was a 55 gallon drum system and when we put the fire out with the sprinklers that were in the building we mopped up and went back and serviced the same day. A couple nights later we had a residential fire and I responded to it and could hear my captain asking for medical assistance and when I arrived on the scene we found that we had a 14-year-old girl who had died in a single family dwelling trying to escape. And it was a really traumatic event. I kept asking myself the question why we can protect yachts and we can't protect our youth. So a couple of us and I can name names, a guy named Bob Beacham who was the fire marshal at that time and he and I started experimenting with sprinklers and putting them into non-traditional occupancies. Then I became the fire chief of San Clemente and as a result of going to San Clemente in the 1970s I had a city that was unbuild. It was a town that was going thru a lot of growth and development. When I first went there it was a population of about 18,000, today it's about 70,000 population. So we had a rare opportunity there and we started experimenting with residential sprinklers and one thing led to

another and we got it adopted in our local ordinance and as the old saying goes the rest was sort of history

**EM** - Back in these early years what role did the US Fire Administration play in taking this 100 year old technology; automatic sprinkler systems; and adapting it for widespread implementation in the residential environment? Can you tell us a little bit about Harry Shaw who worked for USFA at this time?

**RC** - Oh very easily, Harry Shaw was a very influential man and so was the United States Fire Administration. There were a lot of people involved in that stage in trying to make a determination of how we were going to get sprinkler systems into these types of occupancies. Don Manning in Los Angeles was at that time doing some experimental work, Harry Shaw was working for the US Fire Administration, there was another individual named Kathy Slack who was working for Central Sprinkler and there were other guys like Dave Hilton [Cobb County, GA] and Lou Witzeman [Scottsdale, AZ] etc... And how the Fire Administration more or less played a key role at that point in time was that Harry and other people in the Fire Administration started placing emphasis on it. We started doing research, we started having these projects that were questioning the speed of how sprinklers were activating. That's how we came up with the quick response sprinkler head. Harry, we used to kind of joke about him, he was kind of like a little gnome. He was a fire guy; he came from a federal background. As I recall most of his experience had been in the US Postal Service but once he came into the Fire Administration he was a very powerful influence. He directed a lot of effort, published a lot of documents and gave a lot of support to those who were out there trying to do it. I can't tell you the number of times that I had meetings with Harry or I was on the phone with Harry.

**EM** - You wrote in your 1985 book that the decision to adopt the nation's first mandatory residential sprinkler ordinance was a very controversial one at the time and that it might be years before quote, "a final verdict on the effectiveness of the decision" could be made. So tell us, with the passage of time do you feel the decision is vindicated?

**RC** - well to say it was controversial is kind of mild. At the time we had a lot of forces that were arrayed both for and against sprinklers. Most of the people who were opposed to it were asking this simple question and I understand why they were asking it - "Why are you doing it now? We've never done it for the previous fifty years and we have all these homes out there that are not sprinklered. Why do it now?" And the experimental work that went into it basically was very controversial because there were a lot of unanswered questions, water supply questions, speed of response heads and so forth. But as I look back on it now I clearly believe it was vindicated for a couple of reasons. When San Clemente put their systems in there were maybe three people in the entire country that even knew about residential sprinklers. Today there are literally hundreds of communities that are using sprinklers in apartment houses, using them in high-rises and using them in residential occupancies, we've now got it into the ICC code; it's now becoming more of a common practice and so forth. So we used to joke about the fact that it takes years and years to become an overnight success. So while we passed that ordinance back in the 1980s it probably has been evolving ever since then. I have gone to numerous communities in which sprinkler systems have been used to offset a particular risk problem in that community and they've changed the nature of America's fire problem. Statistically, we still prove this today. Statistically most people who die in a fire die in a single family dwelling. There are parts of this country today where that probability has been reduced to almost zero because they've got so many sprinklers. I'll use San Clemente as a classic example. That town when I got there had 18,000 people, today it has close to 70,000, most of those people are protected by residential sprinklers and the fire loss in that town is very, very low.

**EM** - that was a risky move for you at that point in your career.

**RC** - I had a fire chief the night we had the testimony in front of the city council who walked up to me and put his hand on my shoulder and said, "Son, you've just destroyed your career. You'll never get another job as a fire chief by what you just did." And I said, "Why do you believe that?" He replied, "well, you're trying to make fire departments obsolete." And I said, "No, I'm not trying to make fire departments obsolete, what I'm trying to do is make fire departments more effective in doing what they are supposed to be doing which is protecting life and property." That particular individual is long since retired and I rest my case that my career was not over. I spent a lot of time after that working at different levels and being involved at different levels in various activities regarding sprinklers.

But the other controversy was with the building community. And I would be disingenuous if I didn't see this but that controversy is still going on. The building industry still sees this as an intrusion into their world. I feel bad about that for the very simple reason that while a man's home might be his castle it can also be the most dangerous place he goes to sleep. And I'm hoping thru the passage of time and the educational process that more and more builders will realize that this is in their best interest too, to build fire protection into the home, make it the safest occupancy there is.

**EM** - Some jurisdictions have had a little more luck working with builders, I'm thinking of Dave Hilton and ideas of tradeoffs between...

**RC** - oh, yes, worked on that extensively with Dave on the whole concept of tradeoffs. You see, what tradeoffs essentially are, are balancing the scales between manual firefighting and automatic firefighting. If you don't have sprinklers in buildings there are certain things you have to have...wide streets, separation between buildings, you need to have certain construction features in place. Dave was one of the pioneers of coming up with alternative solutions. By saying we'll have a sprinkler that building we don't have to do this... A good example was we changed the hydrant spacing on our fire hydrants. Without sprinklers you want them as close together as possible, with them we moved the hydrants further apart. That's an economic balancing act.

**EM** - What kind of work were you doing with automatic sprinkler systems while you were with the Costa Mesa Fire Department and was that the genesis of your deep interest in the residential sprinkler effort? You already touched on that a little.

**RC** - Yes, I sort of touched on that already but interestingly I was never in fire prevention in Costa Mesa any length of time, I was in the operations division. I was the operations officer. We had several fire marshals that I worked with and we had a fire chief in those days named John Marshall who was also a very interesting character. And we had a unique set of circumstances where fire prevention and operations used to work together really closely. That's why we started doing things like... as an operations officer I participated in plan checking processes; make sure that certain things were built into where the FDC connection was on sprinkler systems and so forth. I would characterize my work in Costa Mesa as being professional curiosity but it got a lot more focused when I went to San Clemente because we were building a lot of homes, we were building a lot of apartment houses and I had a chance down there to do a lot of experimental burning. I must have burned easily 250 buildings in a period of about four years. And when you have those experimental burns you got a chance to set-up demonstrations and you experiment around so we started experimenting with sprinklers in those controlled burns from an operations point of view. That eventually rolled over into putting it into the code itself.

**EM** - What kind of planning, testing and preparation did you and your staff engage in during the years leading up to the proposal for a city-wide residential fire sprinkler ordinance. One of the problems with sprinklers in this era as you describe in your book was that sprinkler heads were not as responsive as

they needed to be in a residential environment as opposed to a commercial one. How did you overcome this?

**RC** - well, I didn't overcome that I took advantage of other people. Let me characterize that as a period where there was a great deal of experimentation going on in different parts of the country. We all started talking to each other. It kind of used to be a joke that you couldn't run into Dave Hilton without me being there and I couldn't run into Harry Shaw without Don Manning being there. There was a small nucleus of people who started working on his concept. Our work in San Clemente was not scientific as much as it was practical. In fact I always tell the story that the first sprinkler system we ever installed in a house was torn out of the lawn. We tore the sprinkler system out of the lawn, turned it upside down and put in a building we were about to burn at a place called the Elmore Ranch. And it worked. We took the plastic pipe and replaced the sprinkler head with a firefighting sprinkler head. Kid that did was named Jim Pengelli. And we started experimenting, we started running tests to see how long it took for a certain level of carbon monoxide to build up and about that same time there was a lot of research going on with the Factory Mutual and with Central Fire Sprinkler which was a company involved in those days. And the network started to expand. What happened was a couple of guys would talk and they'd say did you hear what's going on in Cobb County, GA? Well, then Cobb County joined us and then we got talking to Scottsdale, AZ and we got to talking to Corte Madera, CA with a guy named John Motteniro. And what we had here as the whole saying goes was kind of a fire family that was talking amongst each other and experimenting etc... I always make a real distinction between what we did and what testing is. Having a controlled burn is not a test, it's a demonstration. A test is something you do scientifically and you make sure that all the variables are controlled and that your parameters are correct and so on. So we didn't do any scientific testing but boy we did a heck of a lot of demonstrations. And then we started linking up with Don Manning who was leading that research in Los Angeles about the RTI, Response Time Index, because we did start seeing the fact that we needed that head to go off faster if it was going to be a life safety issue. Because we were working on the premise that that sprinkler head would go off with somebody still in that room with it. And so that's why the change eventually occurred.

**EM** - can you talk a little bit about whether you had some elected officials come to these burn demonstrations in San Clemente?

**RC** - Yes, as a matter of fact it was pretty important that we get our elected officials involved in this process because after all they were going to be the ones who'd have to vote on it. And when we did several of our controlled burns we invited our city council people to come down and participate, my mayor, a fellow by the name of Bill Walker, who was also a local developer I might add, came and participated in the exercises. We dressed him up in turn-outs, put him down on his hands and knees, and had him crawl inside and watch the sprinkler system go off. One of my claims to fame is I actually set fire to a trailer with Senator Bill Campbell sitting in it. And every time he'd introduce me he'd say this is our fire marshal Chief Coleman who tried to set fire to me one day.

It was really critical during the early days to get the city council to go along with the mechanisms we were trying to put into place so we invited them usually one at a time. We didn't bring them together as a group. The obvious reason for that is you didn't want a prejudicial assembly or anything like that so we'd invite them down one at a time. The guy who made the motion to pass the ordinance was the only one who never went on a fire with us. He never went to the experimental burn but he followed up on everything we ever talked to him about.

**EM** - In April 1978 the San Clemente City Council passed the ordinance establishing a mandate for residential fire sprinklers in new housing. The developers operating in San Clemente were not too happy

about that. Can you tell us what happened next? What was the atmosphere like in the room the night this mandate came up for reappraisal by the new Council?

**RC** - One word. Tense. It was real tense. We had a roomful of developers and a roomful of fire people. A lot of fire guys came from neighboring communities. That was one of the chiefs I was telling you about who walked up and put his hand on my shoulder... He was sitting in the back row. I had about 4-5 chief officers there to support us. The way I would characterize the meeting was that it was tense but it was very professional. There was no ranting and raving and throwing temper tantrums or anything like that. I made my presentation. The council opened up for general dialogue, there was some feedback went back and forth and if you read the book Alpha to Omega there was an interesting phenomena that happened..In the middle of the session there was a motion made to adopt the ordinance. And the motion was made by Mr. Ed Kalshed and then the debate went on for about another half hour and Ed made a motion to table the motion. Well, if you understand Robert's Rules of Order that merely means you're putting it down on the table for now. It doesn't mean that you got rid of it at all. So when he tabled the motion all the developers left. They all got in their trucks and vehicles and drove off. And he came back to the meeting and made a motion to return the item to the table and we finished up the discussion with hardly anybody in the room except for the fire guys.

**EM** - so it was kind of an inadvertent stroke of luck.

**RC** - we didn't plan it that way. As a matter of fact I was sitting there on the front row and I had already given my presentation and when he made the motion to table it I turned to my fire marshal and said "I wonder what that means." His name was Don Hodson and Dan looked at me and shrugged his shoulders and said I don't know. So everybody started walking out of the council chambers and I walked up to the door where the councilmen were going thru and I said, "Excuse me Councilman, you made a motion to table." And he said, "Hang around after the coffee break." So, okay, I hung around after the coffee break. He put it back n and we proceeded.

**EM** - Can you describe the very first fire experience San Clemente had in the period following the passage of the ordinance? (Cazador Lane fire)In all the years since then do you have any idea how many homes may have been saved?

**RC** - I can talk about the first fire vividly. I can't really give you as much specific information on the fires that have occurred since then. The person who has probably done the best job of that is Jim Ford, down in Scottsdale. He's kept impeccable records.

The first fire actually happened to an apartment complex that was being built on Cazador Lane. What happened was the building was under construction. It had been wrapped and they were getting ready for the stucco job and a maintenance man left a bucket of material in a hallway. The [sprinkler} system had been fully charged, it was under pressure and I'll be darned if the sprinkler head didn't go off and put the thing out and in fact the entire fire area you could have covered with a bushel basket. us practically nothing. The interesting part was the owner of the building was one of the guys who had opposed our ordinance. He comes walking into the building, and I could see him coming from a hundred yards away, got out of his pickup truck and he started walking towards us and as soon as he got close enough to make eye contact with me he shakes his finger at me as says, "don't you dare say I told you so." I said, "Al, I will never say I told you so." So the first fire was in an apartment complex. Subsequent to that there have been other fires. I left there and went to be the fire chief in Fullerton shortly thereafter so I was unable to sustain the fire statistics but I do know there have been significant saves in San Clemente.

**EM** - After the adoption of the ordinance in San Clemente others in the fire service worked to adopt their own following no doubt the example of what transpired in San Clemente in 1978. Who was Lou Witzeman and how closely did he follow and engage in the San Clemente effort?

**RC** - Lou Witzeman was the fire chief Rural-Metro Fire Department which is in Scottsdale, AZ. There were actually several people in Scottsdale with whom we interacted with. Lou was the chief of the department and later on he was replaced by Bob Edwards, then there was a guy named Jim Ford who was their fire marshal there. Literally speaking all of us were kind of at the same level of development. We all had the same idea. Everybody talks about who did this first and who did that first but I kind of call it simultaneous creativity. A lot of people were trying the same idea. I mentioned Dave Hilton from Cobb County, GA, and his fire marshal, there was a guy named John Motteniro who was involved in Corte Madera, there was a fire marshal in Orange County named Bob Hennessy who was very encouraging and then of course Don Manning so when we talk about all these people and all of their involvement I would characterize it as being a small group of people who believed in a concept and who all started mutually reinforcing each other. When my ordinance was up for adoption they all showed up. They were in the back row with me. When Scottsdale adopted their ordinance I was in the front row with the Chief of that city. And as time went by and this got bigger other people got engaged and started getting involved who didn't know each other. But initially, during a 5-7 year span when sprinklers were first being considered it was probably advocated and adopted by less than a hundred people.

**EM** - So why did this movement germinate in the late 70s. Was it the right confluence of people or technology or both those factors? The technology had been around for awhile in a certain sense...

**RC** - actually the residential sprinkler concept has been around since the turn of the [last] century. I actually have ads that were in the Saturday Evening Post in the early 1900s talking about putting sprinkler systems in the basements of houses.

My answer to your question Ed is I think that ideas have to go thru certain types of incubation and that when an idea starts to be generated its easily killed when nobody is listening to it. I think I want to learn how to fly, well nobody knows how to fly so let's not worry about it, until somebody learns to fly and now all of a sudden here are 10 people who want to learn. Then those ten people teach a hundred people and those hundred people teach a thousand people. I attribute the growth of the residential sprinkler movement in the 1970s, 1980s to a convergence of the America Burning [report] and its influence on the American fire service because if you go back and read America Burning, in there it talks about why we don't use sprinklers in houses. It's actually in there. And I may be one of the last of the vanishing breed that actually read that book. I think everybody should. I think everybody who's in the fire profession should have gone thru what America Burning had to say originally because you can really see how things have changed since then. But that confluence of America Burning, the US Fire Administration getting involved, major cities like Los Angeles getting engaged, it was just an idea whose time had come.

**EM** - well thank you very much Chief Coleman for your time with us here this morning. It's been a real pleasure.

**RC** - It's been a real pleasure being here today and my only hope is that at some point in the future this will truly be just ancient history.

End of interview