

B SHIFTER

Volume 5, Issue 1



The Hazard-Zone Quarterly

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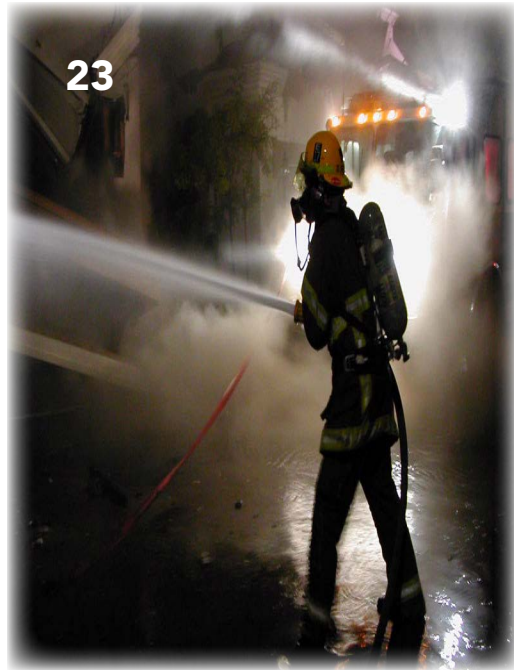
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A Fresh Perspective

Looking at old things in new ways keeps us safe, current & productive.

BY ALAN V. BRUNACINI

B SHIFTER has posted a lot of content about the latest fire-service research. Our writers have encouraged us to process the current information with an open mind and consider changes to our tried-and-true strategies and tactics.

We continue the trend this issue. Eddie Buchanan joins our discussion with his [article about the SLICE-RS concept](#). Like many of us, the recent NIST/UL studies inspired Eddie to look at our old ways of doing things with a fresh perspective. Known as the SLICE-RS guy, Eddie helped spark a change in how fire departments approach structure fires in the modern fire environment. Just like any type of suggested fire-service change, SLICE-RS has stirred the pot a bit. That's a good thing. If you're ruffling feathers, you're probably on the right track.

In a recent issue, Chris Gustafson wrote about all the things we learned from our moms that can help make us better company officers. Chris is back in this installment to share dad's point of view. In [Leadership Advice from Good Ol' Dad](#), Chris relates the rock-solid wisdom he gleaned from his old man, who had some pretty valuable insights. I bet we all can remember some of the things our parents used to say that seemed silly then, but make perfect sense now.

One of my good friends, Dr. Brian Crandell, makes his B SHIFTER debut in this issue. The topic of his article—training—is very familiar. However, Brian introduces concepts many of us haven't tried. In [Street-Smart Training](#), he highlights specific methods that align with how firefighters learn most effectively. The techniques Brian presents ensure that training matches the work firefighters do in the real world. His suggestions might seem different at first, but change can be inspiring. Just because something is different doesn't mean it's bad.

Speaking of change and fresh perspectives: I want to honor a B SHIFTER author and Blue Card instructor who is retiring after 33 years in the fire service.

Chief of Operations Pat Dale recently announced his retirement from the Olympia (Wash.) Fire Department (OFD), where he served for 16 years. During his tenure, Pat helped develop Olympia's (truly) state-of-the-art regional training facility, complete with live burn tower. This facility has delivered safe, smart, realistic training to many departments throughout western Washington. Pat also developed OFD's command training center and played a pivotal role in bringing Blue Card to his department and the region. Under Pat's guidance, the department developed a new training method that marries Blue Card simulations with hands-on training conducted on the drill ground.

I know the OFD will miss Pat; he served his community and his department with tremendous heart and dedication. OFD's loss is our gain, however. Pat will continue working with B SHIFTER, and we are happy to say he will continue working with Blue Card in a greater capacity. Enjoy retirement, Chief. If you're like the rest of us retired people (me), you're about to become busier than ever. **BS**



Click the photo above to watch the OFD's tribute to Chief Dale



Olympia (Wash.) Fire Department Assistant Chief recently retired after 33 years in the fire service.



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- ✔ Breakfast, Lunch, and snacks will be served each day at no additional expense to registered guests.
- ✔ Blue Card Instructors please remember to register for the Saturday Morning Instructor's Breakfast. Free for Blue Card Instructors.
- ✔ Wednesday night join Chief Brunacini for a pre-registration event in the Gold Room just off the main foyer. This welcoming reception includes drinks and appetizers and will be from 6:00pm - 7:30pm. Don't miss this opportunity to network with the presenters and guests.

To Register Go To www.bshifter.com



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Phoenix F.D. Ret.



John Brunacini
Phoenix F.D. Ret.



Nick Brunacini
Phoenix F.D. Ret.



Eddie Buchanan
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John Cerriello
F.D.N.Y.



Pat Dale
Olympia F.D.



George Healy
F.D.N.Y.



Chris Gustafson
Glendale F.D.

The Response Remains the Same

Acts of God, violence & terrorism: Each requires our standard, skilled response.

BY NICK BRUNACINI

I am going to repurpose Nancy Reagan's "Just Say No" slogan. It is becoming increasingly apparent that this decades-long war on drugs has been an unmitigated disaster. This whole sorry mess has been one of our nation's largest wastes of money, resources and time, not to mention it has caused an enormous amount of human misery and suffering. Because it's never too late for reflection and adjustment, we can turn back the clock and salvage these words. Repurposing this phrase for good vs. evil will cleanse us. America, "Just Say No" to the latest media onslaught that has us cowering in fear, certain we will soon die at the hands of terrorists.



We respond to smoky piles of rubble in basically the same way, no matter the cause.

New Lunatics, Old Game

To put things in perspective, terrorism has existed in some form for thousands of years. In 1980, my recruit class learned CBRN (chemical, biological, radioactive, nuclear). This training included how to avoid secondary devices (a favorite tactic of the Irish Republican Army); how enemy agents assassinate foreign politicians with the tips of umbrellas loaded with ricin; and early man's use of anthrax-infested livestock as artillery to be fired over the castle walls of their enemies. Our training also covered radical religious groups, but back then we spent equal time discussing our response to abortion-clinic bombings.

In the 1980s, incidents like the MGM Grand Hotel & Casino fire represented the biggest threat to our safety and survival. We were much more concerned about dying in high-rise fires than becoming the victims of terrorism. Back then we believed it was much more likely for an American citizen to die from second-hand cigarette smoke than from a terrorist attack. **I don't think I'm going out on a limb here when I say the preceding sentence has proven factual.**

My initial terrorism training reinforced that it wasn't our job to stop it. The fire service's role is to respond after an event has occurred. One will notice pretty quickly that a building blown up accidentally from a gas leak looks a lot like one blown up intentionally by a terrorist. Modern life happens at high velocity, and a fire-service career comes with carnage. It is estimated that in 2015, America will experience around 33,000 shooting deaths, surpassing the number of traffic-related fatalities for the first time ever. The fire service will respond to all of these deaths in basically the same way. Don't be surprised when all of the carnage starts to look alike. Today's terrorist is just another asshole with a weapon.

A Place for Everyone & Everyone in Their Place

The job of preventing terrorism falls to the federal government in conjunction with law enforcement. This is why our federal government reorganized itself more than a decade ago around the newly established Department of Homeland Defense. The fire service's mission for these incidents is to protect life through EMS and fire control. Terrorism training for firefighters is equal parts identifying acts of terror as part of the size-up process and staging in safe locations while law enforcement searches for and neutralizes these hazards (active terrorists and secondary devices). This division of labor allows us to focus on our traditional roles: We provide medical treatment and transportation while the police enforce the law.

There were members of our fire department who attempted to blur these lines by outfitting firefighters in tactical police gear and embedding them into the SWAT team. This is not our role. We are equipped and trained to handle hazards associated with fires, hazardous materials and natural disasters. The police are not equipped or trained to operate inside burning buildings any more than we are equipped to deal with active shooters. We wear uniforms to identify ourselves to the community. Dressing firefighters like the police turns us into the police. We are not the police and should not pretend we are (despite our love of dressing in manly costumes). If firefighters want to work for the police department, they should quit the fire department and join the police force. Here is a real story about a police officer who did the opposite:

"Ned" had been a police officer for 10 years when he decided to join the fire department. He successfully competed for a firefighter job in the same community where he had been a police officer. This city has a public-safety campus that houses both the police and fire administrations, along with the training academies for both departments. Ned's first day as a firefighter was just like the rest of ours: He and his classmates went from office to office to gather their uniforms, turnouts and station gear, and to be sworn in and welcomed by their new cult. Ned was standing in line holding all his new stuff when an armored personnel carrier performing militarized police-training maneuvers pulled up next to the firefighter recruits. The hatch swung open, and a cop wearing his ninja costume waved his machine gun at Ned and barked, "Did you get to keep your AR, Ned, or did your new chief take it away? Does Ned need his old friends to protect him now?" Ned's response confirmed he was where he belonged. He reached into his bag with his new station gear and replied, "No. They took my machine gun and replaced it with freedom!" Ned then pulled out his new fire-department-issued pillow and waved it into his overdressed friend's face. This is when Ned officially became one of us.

It's the Local Stuff that Gets You

The most horrific incidents during my career were not the result of terrorism. They were the everyday stuff we respond to: violence, arson, mayhem, chaos and death. (As young firefighters, we learn that all life ends in death.) Our terrorist events were child's play compared to the brutality of our "regular" calls. My department's terrorism response was limited to harmless white powders posing as anthrax or ricin sent through the U.S. Mail post 9/11. In typical fashion, we over-deployed when these copycat incidents started occurring. Once we removed the fear and hysteria from the response, we developed a safe, effective and sane approach to handling potential biohazards.

As a service, we operate at the scene of many repugnant incidents. The one that floats to the top of my pile of shit memories sent more than one member of a seasoned emergency-room crew home for the day. They had seen similar injuries hundreds of times, but the story of how these specific injuries happened was too much to process.

Each firefighter has their own collection of these memories. The only workable solution I found for these nasty incidents was to operate in a strong system—one that unites the workforce around the service it provides and invests in training and equipping members to respond to these incidents. This happens ahead of the event. Any knowledgeable mental-health professional will tell you that how well an organization recovers from a nasty incident one week after it happens is based on how well they were doing a week before the event took place.

When a call is over, we come together as a group and review the incident in operational terms. Using our regular evaluation and critique process to review the details of that incident helps us “de-personalize” (if that’s even a word) the incident. Critiquing the incident in this fashion helped dilute the heavy emotional toll by focusing on the reason we responded in the first place: to help those in need. I was always amazed that the group of us felt most comfortable staying at work after one of these events. It was the emotional equivalent of not taking your work uniforms home to launder them; we put washers and dryers in fire stations so we didn’t take the shift home to our other family. That operational focus and philosophy kept the group of us from going insane on more than one occasion.

Facts Trump Fear

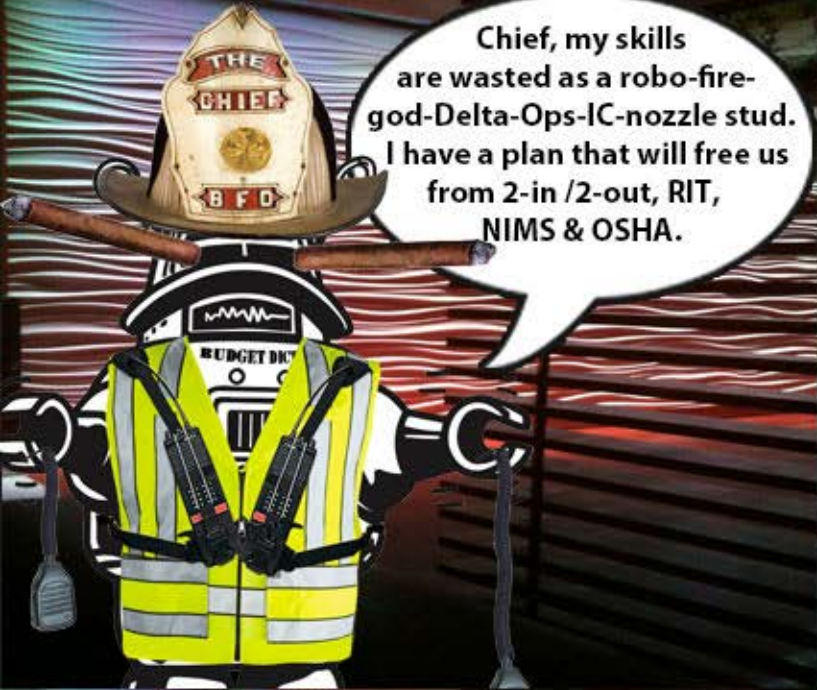
Hype and hysteria fuel media ratings. Everything that happens is recorded and reported. Our TVs, phones, computers, automobiles, appliances and traffic-control devices keep us connected to the World Wide Web all of the time. (Ten years ago, who among us could have predicted that the Comedy Central Network would have the most accurate news?) This unlimited access to everything has turned each consumer into an expert. Each expert presents their own opinion as fact, despite tailoring how they choose to consume information to match their individual beliefs, superstitions and fears. The Internet is a giant super collider that blasts these various “facts” together to produce an endless stream of vibrant colors and noise. It’s easy to become hypnotized, even fearful, by all the moving pictures and sounds. However, just because something was watched a million times doesn’t mean it happened a million times.

Terror depends on this unreasonable fear to be effective. The antidote to fear is knowledge (“Just say know!”). We have careers that force us to see things as they are. When our size up is based on the actual facts, we can take the most effective action.

As a group, our identity is connected to rushing toward unknown danger. Many of us experienced fear the first few times we went into a burning building. That fear was ultimately replaced with the rapturous joy one experiences when communing with the magic of combustion and fire control. In similar fashion, if we exist free from the fear of fanatical asswipes, we win. All we have to do is live our lives. **BS**



Nick Brunacini joined the Phoenix Fire Department (PFD) in 1980. He served seven years as a firefighter on different engine companies before promoting to captain and working nine years on a ladder company. Nick served as a battalion chief for five years and in 2001, he was promoted to shift commander. He then spent the next five years developing and teaching the Blue Card curriculum at the PFD’s Command Training Center. His last assignment with the PFD was South Shift commander; he retired from the department in 2009. Nick is the author of “B-Shifter—A Firefighter’s Memoir.” He also co-wrote “Command Safety.”



Chief, my skills are wasted as a robo-fire-god-Delta-Ops-IC-nozzle stud. I have a plan that will free us from 2-in /2-out, RIT, NIMS & OSHA.



Interesting. We are amazed at how quickly you've been able to deliver the same level of chaos to incident scenes as a herd of freelancing deputy chiefs!



I know I have aliented some of the men with my A-Shift enthusiasm to be the best of the best. My new plan has me serving as our department's full-time rapid intervention squad.



How do you intend to provide around-the-clock RIT coverage for the entire organization?



Once we fix the elevate, rotate & extend functions, I can be launched into any mayday situation faster than the speed of sound! The Hero Protector reporting for duty, my liege!



Eliminating maydays with well-meaning RoboRIT artillery doesn't seem to be a viable solution.

We had to destroy the mayday to save the mayday.



What They Don't Know Can't Hurt You

When you obviously dislike or favor someone, it can bite you in the butt.

BY TERRY GARRISON

Abraham Lincoln once said, "I don't like that man. I must get to know him better." I wanted to start with this quote for two reasons. The first is to demonstrate how intelligent I am. Many authors begin with a quote from a famous person, so I thought I would give it a try. The second reason is because I wanted to show you that even one of our greatest presidents met people he didn't like. I know that as leaders, we are not supposed to admit there are some people we work with whom we just don't like. Of course, we should never admit we have favorites. But the truth is we do. I don't think there is anything wrong with recognizing there are people at work whom we seem to connect with better than others. The problem occurs when you start treating people differently based on how you feel about them personally.

I have always thought the most interesting thing about favoritism is how completely obvious it is to nearly everyone in an organization except the people directly involved. When favoritism takes place at the command level, it's even more obvious. I have known fire chiefs who select their command team based on how well they collaborated on a homework project freshman year in high school, or maybe they share the same color hair dye. Perhaps high school was the last time that fire chief felt he actually had a friend or someone he could trust. (Funny thing about trust is that it is based on reciprocity. But that is a topic for another day.) Favoritism at the command level impacts the entire organization and is contagious. When it is OK for a fire chief to select a less-qualified person for a position based on friendship, it sends the message that organizational values are based on something other than providing the best possible service. It communicates that moving to the top of an organization is not based on how successful one is at supporting that service.

I know right now each reader is playing a tape (newer generation think Blu Ray) in their head of a person who is currently working at a level only because of their relationship to the person who did the selecting. Don't get me wrong. There are many cases where two people who are friends can work together at any level. I am referring to the obvious situations where someone reaches a level of responsibility based solely on relationships and then does not have the skills to perform the job. In my experience, there are two issues that cause problems in organizations: favoritism and knuckleheads. It's extremely bad when that favorite person is a knucklehead.

As prevalent as favoritism can seem, I recognize that most of you are not in a position to select your own command team and are never going to be fortunate enough to make your hair stylist your operations chief. At some point, most of us

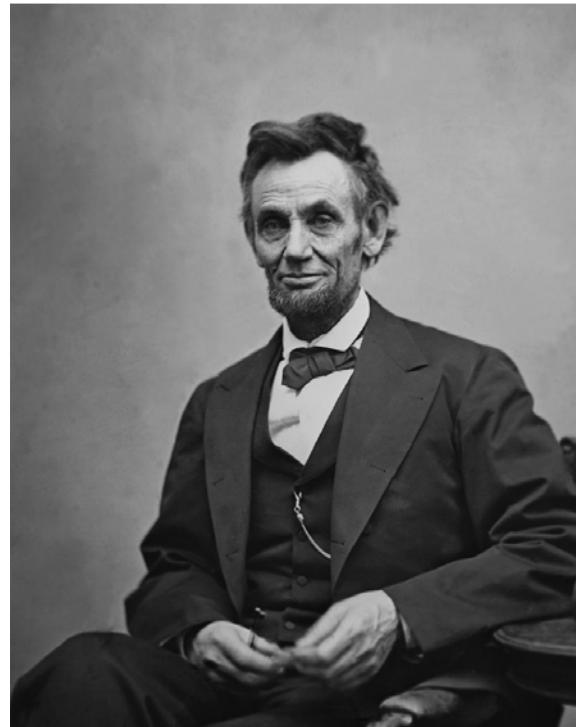


PHOTO SHUTTER STOCK/EVERETT HISTORICAL

Even good ol' Abe Lincoln met people he didn't like. Ever the functional boss, he looked for ways to know them better.

will work with someone we just don't like. It is not so much how you feel about the people you work with (good or bad); it is all about how you treat them. I can sum up the way you should treat people with a simple phrase: Be Nice. I know the "Be Nice" principle is not a new idea, and Chief Alan Brunacini has been leading the charge for as long as I can remember. But here at the Houston Fire Department, we have taken the concept and institutionalized it by creating a strategic plan based on three primary principles: Be Safe, Be Nice and Be Accountable. We have categorized all of our organizational objectives within the framework of these principles. We have also created a document titled the "Accountability Manual," aka the Red Book. All members received a personal copy of the Red Book and attended training covering the principles within the book. It basically is a manual to describe how we should treat each other and the public.

The process has not been without challenges. Early on I had heard from my operations chief that a very senior district chief (DC) was traveling throughout his district and spending a great deal of time bad-mouthing the Be Nice concept. Because he was a middle manager and well respected (also known as a hard-ass), his opinion mattered to a lot of members. You have heard the saying, "One well-placed brick thrower can outperform a hundred brick layers." Well, this is exactly that type of situation. I called the DC into my office and asked him a simple question: "How do you feel about the Accountability Manual and the Be Nice concept?" His answer was pretty short and to the point. He stated, "Not much." I quickly followed with, "OK, thanks for sharing. I will see you here Monday morning when you start your new assignment as a staff chief." As you can imagine, his attitude changed, and the meeting took on a different feel. I was able to educate him on the fact that as a DC and a middle manager, he had a responsibility to be nice and to process the strategic goals of our organization. If he felt he could not do that, then perhaps it would be better for him to work near me. I felt we were going to spend a lot of time together. (He was mostly concerned because he had never been on staff and was going to retire soon. He wanted to do that as a district chief and in the field with the men who respected him.) During our conversation, I was never mean or disrespectful toward him. I have found that when you deliver bad news, there is no reason to be mean about it.

To my surprise he returned to work early Monday morning with an entirely new and improved attitude. You are probably thinking he was just playing a role, but the truth was he actually had an epiphany over the weekend. He shared with me a conversation he had with his wife over the weekend in an attempt to garner some support, and what he received was exactly the opposite. She told him he was out of line and has been a negative-thinking person for quite some time. In fact, his grandkids' nickname for him was Grandpa Grumpy. He truly had a change of heart, and it was obvious as we spoke. I did not release him back to a district, however. Instead, I asked him to write an appendix to our Accountability Manual regarding how the more senior generation can communicate better with our new members. He was very agreeable about the assignment and actually felt like it was his responsibility. (The best definition of *effective learning* is "a change of behavior.") He definitely had learned something about himself. I am thinking the lesson came more from his wife than from me, but I will take positive change however I can get it. It took him more than a month to complete the assignment, and he did a great job.

He eventually returned to his district, and from what I hear, he was a new man. He treated everyone with respect and kindness. He was the poster child for Be Nice. One story tells of how amazed the firefighters were when he actually sat down at the table with a probationary firefighter and asked him how things were going and whether there was anything he could do to help. The DC's attitude never faltered. He has recently retired, but he is remembered not only as a great tactician, but also as a nice guy.

Happy Endings

I know this sounds like a “Happily Ever After”, and we all hold hands and skip down a yellow brick road, but you know that is not true. The work continues and we still find that being nice is not so easy for some people. I know that we are making progress by some of the comments made by firefighters. Our members have a great way of personalizing change and in many cases that is through sarcasm. Thank goodness for sarcasm. Life would be boring without it. Just the other day, I was at a public event with a group of firefighters when I jokingly gave one a hard time about his appearance. One of the firefighters listening stated, “Chief that is an RBI.” I asked, “What is an RBI,” and he replied, “A Red Book Infraction.” I could not have been more proud. **BS**



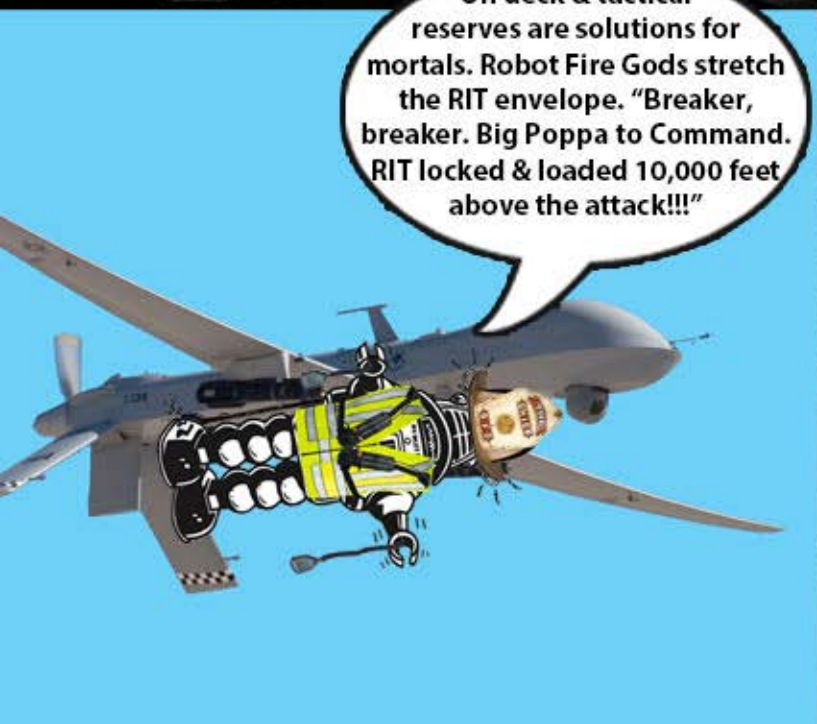
Terry Garrison began his firefighting career with the Phoenix Fire Department (PFD) in 1977. He worked with Alan Brunacini for almost 30 years. Retiring as the assistant chief of operations, Terry took the “firefighter safety” and “be nice” values he learned at the PFD and continued his career as the fire chief in Oceanside, Calif. He currently serves as Houston’s fire chief. Terry has taught Fire Command worldwide and co-wrote the “Fire Command Workbook, 2nd Edition.” He has a master’s degree in education from Northern Arizona University and has attended the Harvard Kennedy School of Government. Terry and his wife Annette currently live in downtown Houston near their grandson Jack, pictured left, who rules their world.



Using me as the department's dedicated RIT sends a message to the workforce that THE cutting edge technology has their backs. I have devoted my last three software updates to preparing for this task.



That's why you're the boss. Artillery is dead technology!



On deck & tactical reserves are solutions for mortals. Robot Fire Gods stretch the RIT envelope. "Breaker, breaker. Big Poppa to Command. RIT locked & loaded 10,000 feet above the attack!!!"



Twenty years ago, we changed our response policy to stop before going through negative right-a-ways in the name of safety. Remove yourself from the cannon, Robot.



That's not it at all, Robot. Rapid intervention is a capability. It begins with having enough resources assigned to the incident and maintaining a tactical reserve.



Those who sacrifice security for rapid intervention end up with neither.

Funny. You could say the same thing about fire control & RIT.



Courage Under Firefighting

Tap into true bravery, even if it makes you look like a sissy-pants.

BY JOHNNY PETERS

“We are aware of the potential we see in front of us; we’re going back inside the building.” These words describe the apotheosis of courage. They were spoken on March 26, 2014, by a member of the Boston Fire Department as crews were attempting to rescue trapped firefighters. Lt. Edward Walsh and Firefighter Michael Kennedy gave up their lives.

I am convinced that for my first year or so in the fire department, I did not have to rely very much on courage. I was unaware of the potential before me. Courage begins where ignorance ends, and I was massively ignorant. When we made working fires, I knew they were dangerous and I accepted on some

I believe...most good firefighters emerge from the academy as complete lunatics. Very few of us emerge as...rational protectors of life & property.

level that I was not immortal, but because I was a deranged berserker, I didn’t believe it. Was I effective? Yes. Fires went out, I completed my assignments and I got good evaluations. However, I am here today not because I was a good firefighter then. I am here today because my officers were not ignorant, and because I was not defiant. The worst possible combination for a firefighter is ignorance and defiance. Luckily, I partnered my ignorance with obedience. I was never tempted to remain in a building once the call for defensive mode came. I resented fireground disobedience, and I did not freelance (except for two occasions, neither under my regular officers). If I had not worked for smart officers, I would probably have been made dead. I believe as an article of faith that most good firefighters emerge from the academy as complete lunatics, and for that reason, the most important personality trait to instill in rookie firefighters is obedience. Very few of us emerge as fully developed, rational protectors of life and property; most probationary firefighters worth their salt will just be rabid animals. I admit it’s a design flaw. The responsibility of curing it falls to officers, but the task must be shared among everyone. Without good leadership, the process of turning complete maniacs into sane firefighters falls apart completely. We do not get enough fully formed, situationally aware firefighters directly from the academy.

Firefighters who are afraid to look like cowards can appear courageous, but they really aren’t. They can have highly successful careers if they work for smart officers. The same isn’t true as we move up the ranks. If officers are afraid to look like cowards and cannot get a handle on this fear, they end up getting people hurt. The aforementioned firefighter rabies is never cured, merely controlled. Sometimes, a breakout is harmless. A small

room-and-contents fire that you attack prematurely but successfully. Other times, you end up pinned down in a hallway cooking the fill-in who trusted you because on previous occasions you held your reptile brain in check. Or perhaps it is strongest when you're assigned boring things like laying a supply line, or positioning to back up the attack line. Whatever your particular vulnerability, the virus will choose this moment to attack your brain, attempting to hijack its processes. You will feel compelled to barrel onto the location, or to push your way in front of the attack line. The disease believes it is the only firefighter in the world that can put out this fire, and anything less is weak-kneed sissy-pants nonsense. Stand aside, mortals! Let lesser beings provide support. Verily, support shall not be needed, for we are the children of Prometheus!

I think this compulsion feeds off a nearly universal misapprehension, namely that firefighters are paid to be brave. We aren't. Nor are we paid to make interior attacks, or even to locate, confine and extinguish. A mechanic is not paid to turn wrenches, but instead to repair a motor. Turning wrenches is one of the ways he accomplishes this task. We are paid to save lives and protect property. In doing so, we may have to call on courage, just as we may have to swing an axe or throw a ladder. When I think of the job this way, I can better deal with the times when I have to face employing less aggressive, but more appropriate, means. This is my vulnerability. Yours might be different.

Courage is just a tool. A means to an end. As inseparable as the Halligan is from the fire service, we all recognize that it is not our purpose. No one would conflate the Halligan with the mission of the fire service. But we do so with courage, and we do it often, although in sometimes subtle ways. We have to keep courage in its place, and make it serve the mission. We cannot do it the other way around.

The desire to be seen as courageous manifests mainly in the negative form. That is to say, rather than *seeking* to be seen as courageous we desire to *avoid* being seen as cowardly. Good firefighters don't wish to be seen as cowards, and this fear can get in the way of the job, causing us to take unnecessary risks, such as driving recklessly or launching an attack prior to gathering a proper amount of information. Courage is so much a part of the job that it has become a baseline. Like the size of professional athletes. It's only the small ones who stick out, anymore. Chief Edward Croker (FDNY 1899-1911) said it succinctly: "When a man becomes a fireman, his greatest act of bravery has been accomplished. What he does after that is just in the line of work."

Our line of work is the defense of life and property. Without qualifiers, meaning we include our lives in that mix. We take risks in order to reduce loss, not to add to it. So we might employ lights and sirens and prudent speed, but we can't blast through the city like Mad Max fleeing Lord Humungus. We cannot evaluate our actions by any measure but whether it stops loss. Reputation is a byproduct.

A discussion on tactics can never be a discussion on what is brave or not. It has to be a discussion on what works. The pep rallies, fire porn and working incidents set to heavy-metal music have their place in boosting morale, but when real decisions are made in the moment, the heart that makes them must be cold, and that means setting aside the chest thumping. Courage has to be kept in its place, or it will take over the show. I hope I don't confuse the issue now by saying that some of the acts that require the most courage to



PHOTO BIG STOCK/PROMETEUS

You are a golden warrior, a valorous, fire-eating deity. Or perhaps you are merely ignorant.

undertake are the ones that in themselves don't require much courage at all. When Chief Croker commented on the greatest act of bravery being that of becoming a firefighter, I think going defensive must have slipped his mind. So much of our identity as firefighters is wrapped up in acts of conspicuous courage that prudence, which can disguise itself as cowardice in the same way that ignorance can disguise itself as courage, becomes in itself an act of courage. I was fortunate to be trained by firefighters and officers who didn't base their evaluation of firefighting prowess on reckless abandon. Concepts like VES (vent-enter-search) weren't invented by people looking to charge through fire like madmen, but by people who focused on the mission and found a way to accomplish it. The refinement of adding "isolate" to the equation, making it VEIS, illustrates the calculating nature we must adopt, and the seeming paradoxes created by making protection of life our priority. Search is the last thing we do in a VEIS operation. Not because life is the least important, but because it is the most important. Everything else, courage included, is in service to that. **BS**



Johnny Peters has been with the Houston Fire Department since last century. In this time, he has successfully gamed the system and promoted to senior captain, forever freeing himself of the burden of fire hose by hiding himself in a truck company. He is now able to indulge his intense hatred of locks and doors through violence disguised as technique. His locker hiding powers remain intact.

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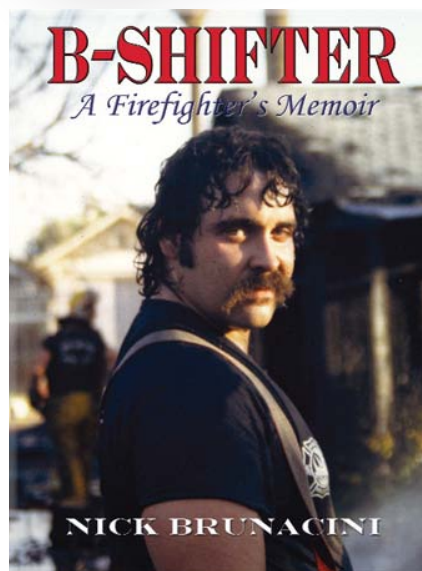
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Type III Ordinary Construction

Chief Dunn explains how to stay safe when operating in or around brick-and-joist buildings.

BY VINCENT DUNN

Type III ordinary construction, sometimes called brick-and-joist construction, has masonry bearing walls that support the wood-beam floors and the roof. Because it has become expensive, builders are replacing Type III construction with more economical Type II steel-and-cinder block construction, or Type V wood-frame construction with brick veneer that resembles Type III construction. The five construction types range from least flammable to most. Type III construction sits right in the middle because it contains a medium amount of combustible wood when compared to the other construction types. These structures have more wood than Type I or Type II, but not as much wood as Type IV or Type V. It's important to note that some Type III structures are more than a century old and have been renovated, and the renovation process can create new fire-hazard problems.

Brick-veneered buildings are not Type III structures.

Some buildings adorned with brick veneer, such as the Type V structures mentioned above, can resemble an ordinary Type III building. However, these buildings do not have masonry bearing walls like Type III structures.

Type III buildings can have three types of masonry walls: 1) Bearing walls, which support a weight other than their own; 2) Nonbearing walls, which do not support any weight other than their own; and 3) Party walls, which measure 8' to 10", are bearing walls that support the floors and roof beams of two adjoining buildings. It is important for firefighters to know the difference between these types of walls. If a bearing wall collapses, it will trigger the collapse of any structural components it supports. On the other hand, a nonbearing wall can collapse without affecting other parts of the structure. Nonbearing walls have fewer connections, but bearing walls can support a building's floors and roof.

As noted above, party walls support two adjoining structures. Wooden beams from each of the adjoining buildings intersect the party wall, which helps support the structures. If a fire occurs in one of the buildings, flames and smoke can spread through the masonry where the beams meet, or through small cracks, crevices and loose mortar near the beams' intersection.

Sometimes, people confuse a party wall separating stores in a strip mall with a fire division. A party wall's purpose is to support two adjoining buildings, but a fire division is built specifically to stop fire. In fact, if you examine a party wall in the space below the roof and above the ceiling, you might find several poke-through holes in the masonry, which would allow fire to spread easily between buildings or stores. If you pull a ceiling in an adjoining store during a fire in an exposure, you might discover large holes for electric cables, air-conditioning ducts or plumbing pipes. Never trust a party wall to stop fire. A true fire division wall is superior in this capacity. They do not support floor or roof beams; they are independent structures with their own foundation and have a 3- to 4-hour fire rating. If a party wall *does* stop fire spread, consider yourself lucky. Whenever you expect a party wall to stop fire spread in a common roof space between stores or buildings, you must open the ceilings on the exposure side and examine the wall's integrity.

A parapet wall is a recurring collapse danger.

A parapet is the free-standing portion of a wall that extends above the roof. If you climb up to a rooftop, you might see a parapet wall surrounding the roof's perimeter, dividing individual stores or buildings. Bearing walls, nonbearing walls and party walls can all have a raised parapet section that extends 12 inches to 6 feet above the roof deck. Building codes recommend that parapets should measure 3 feet high, but an owner or builder might install a higher parapet to make a building appear taller.

Constantly exposed to the elements, the parapet is a wall's weakest section. A coping stone, or cap stone, is designed to protect a parapet wall from moisture and rain. (Read more about coping stones below.) Tar or metal coatings on the parapet's front and back can offer some water repellency. Still, decades of exposure to rain, snow and ice can wash away the mortar between bricks and weaken the parapet. The freeze-thaw cycle in colder climates creates small cracks that eventually widen. After years, an old brick wall with mortar erosion will lean inward or outward as it becomes more unstable. In some instances, the mortar completely loses its adhesive qualities, and the bricks are held in place by only gravity. When this happens, the slightest impact from

a hose stream, explosion, earthquake or strong wind can topple the parapet. In earthquake-prone areas of the country, building codes limit the height of parapet walls because they are the first part of a shaking building to collapses. During earthquakes, people have been killed by falling parapet walls while running out a structure. Heavy-caliber hose streams, sweeping the top of a burning roof, have knocked down coping stones or the entire parapet wall on top of firefighters.

The most dangerous parapet wall in Type III buildings is the decorative one at the front of one-story strip stores, which usually sits over several large display windows. This wall balances on top of a steel I-beam that spans the opening. After the front windows are vented during a fire, flame blows out of the opening, twisting and warping the I-beam. The parapet can then collapse on top of firefighters.

Coping stones are deadly.

Depending upon its composition, a coping stone can weigh between 5 and 50 pounds. When parapet walls are not properly maintained, the mortar used to cement the coping stone in place can lose its adhesive qualities. Once loose, it can get knocked off the top of the wall. Many old Type III buildings have coping stones along rooftops that merely rest on top of the wall. Sweeping master streams, retracting aerial platforms, snorkels, or aerial ladder buckets dragging along the top of a parapet can easily dislodge these loose coping stones easily. Firefighters have been killed by falling coping stones, so anyone operating around the perimeter of a burning building must be aware of this danger. When retracting an aerial platform resting on a parapet coping stone, the chauffeur should first raise the ladder, and then retract it. Firefighters working around a burning building where master streams are operating should avoid the down-stream area where the powerful water stream can drive parapet walls and coping stones off the roof.

Beware concealed spaces and poke-through-holes.

Every building has specific vulnerabilities that allow fire to spread. In Type III ordinary constructed buildings, voids, concealed spaces and poke-through holes present this vulnerability. Inherent to Type III and Type V buildings, these hidden spaces contain large amounts of combustible material: wood lath, wood

Wall Stability		Destructiveness	
Most ↕ Least	Bearing Wall	Most ↕ Least	Bearing Wall
	Nonbearing Wall		Nonbearing Wall
	Parapet Wall		Parapet Wall

furring strip, cross-bridging, wood joists, and 2" x 4" wall studs. Fire sometimes originates inside one of these concealed spaces, but it is more common for a fire to begin in the contents, and then burn through a plaster ceiling or wall and into a concealed space. Once inside, flames and smoke can spread unseen throughout the entire structure, fueled by the interior combustible framework. The largest concealed space in a Type III building is the common roof space, sometimes called the *cockloft*. This large area, designed for insulation, sits above the top floor ceiling and below the roof. It extends over all top-floor rooms or apartments and can be several feet high. Sometimes the common roof space connects to the adjoining structures and allows fire to spread over several connected town houses, condominium or row dwellings. These fires require multiple alarms to extinguish, and the firefight can cause major water damage to lower floors. Fire-prevention codes for Type III and Type V buildings require firestops/fire barriers that divide the common roof area into sections not larger than 3,000 square feet. However, in communities without fire codes, the common roof space is unrestricted; unimpeded fires can destroy entire condominium complexes, apartment houses or rows of dwellings.

Bathrooms are a floor collapse hazard.

A bathroom floor weakened through the years by moisture and overloaded with heavy fixtures poses a collapse danger during a fire. Cast-iron tubs, sinks and porcelain toilets contribute thousands of pounds of dead weight, which is concentrated in the smallest room of the building and supported by only a few floor joists and the finished tile floor. Some older bathroom floors sit on top of 2 to 3 inches of masonry. This layer, called deafening, provides sound insulation. The joists in these floors might have been cut and reduced in depth to keep the bathroom floor level with floors in other rooms. Floor joists in the building might be 2 inches wide and 10 inches deep, but these bathroom floor joists will measure 2 inches wide and only 4 inches deep. During overhauling, direct the hose stream and pull ceilings from the doorway if it appears the bathroom floor is weak.

Fire can spread vertically in Type III buildings.

Flames burning through a suspended ceiling can reach a bathroom or kitchen, where they continue to rise through all floors. Bathrooms and kitchens allow fire to spread to a floor or floors above a common roof space. The concealed spaces in bathrooms and kitchens house water pipes, drains and air ducts that rise vertically from cellar to roof; none of the poke-through or pass-through holes have a fire stop, so flames can rapidly spread up these shaft-ways and pipe chases. If you suspect fire has spread from a bathroom or kitchen to a pipe recess, the incident commander should have firefighters check all upper floors as well as the common roof space.

When an old Type III building is renovated, new construction techniques often enlarge concealed spaces and create more of them. In addition, much of the inherent fire stopping used in old construction is removed during renovation. For example, renovators might remove excess plaster drippings that create unintended fire stopping, and the builder might not install wood bracing, which can slow fire spread, between wall and floor beams. Flame and smoke in a renovated Type III building's concealed spaces travels even faster than normal. Before leaving the scene of a fire in a renovated building, have a fire officer make a last-minute check of bathrooms and kitchens on the top floor, as flames in the concealed spaces might have skipped floors and spread to the very top floor or common roof space through the larger, more numerous concealed spaces.

Suspended ceilings can ensnare firefighters.

To make renovated Type III buildings more energy efficient, builders drop high ceilings so each floor can have a suspended ceiling, the largest of which is on the top floor. These ceilings hang from the beams above by hanger strips of wood, wire or steel rods. If fire enters the common roof space and burns these supports, the entire suspended ceiling can collapse on firefighters. Exercise care when opening

this type of suspended ceiling. If too many firefighter use pike poles and forcefully pull down on the furring strips instead of just the ceiling panels between the furring strips, the entire ceiling can collapse.

The fireman's cut is not our friend.

Wood floor beams embedded in masonry bearing walls can be cut at a 45-degree angle called a fireman's cut. Another name for a fireman's cut is self-releasing beam. Self-releasing beams in Type III construction allow a floor to collapse without toppling the supporting bearing walls. The beam's cut ends can rotate out of the embedded masonry space, allowing the bearing wall to remain standing. They are designed to fail in order to preserve the more expensive masonry walls. When a floor beam does not have a self-releasing beam, the falling floor beams can topple and push the masonry bearing wall outward. Although this self-releasing beam can protect firefighters operating outside a burning building, we often fight fires inside the building. In addition, some say these self-releasing beams facilitate floor collapse. Perhaps these cuts should be called a builder's cut instead of fireman's cut.

Open-joist construction fails faster.

Some commercial Type III buildings lack plaster ceilings and walls: garages, storage buildings, warehouses and factories without public access. A plaster ceiling can protect the underside of a wood floor or roof for about one hour when fire burns below. Without a protective plaster ceiling, the interior structure ignites and succumbs more quickly. A Type III building without ceilings is called open-joist construction and is identified as a Type III 200 construction. If a Type III building's interior is covered with plaster, it is identified as Type III 211. These Arabic numbers indicate the hourly fire protection rating of the exterior walls, girders and columns, and floors. The number 211 tells us the exterior walls have a 2-hour rating; the columns and girders have a 1-hour rating; and the floors have a 1-hour rating. Type III 200 structures can suffer early floor or roof collapse during a fire. The IC should be notified anytime this construction type is suspected or confirmed.

The exposed wooden decks and beams in open-joist Type III buildings can burn quickly, and firefighters searching above a fire might plunge a foot or leg through the burned or charred wood. In some cases, firefighters who have fallen through burned decking in an open-joist structure become trapped, their lower torso wedged between the joists. Unable to quickly extract themselves, they suffer serious burns. To avoid plunging through a burned-out floor deck, crouching firefighters advancing a hoseline should keep one leg outstretched in front of them to feel for weakened floor. Support the body's weight with the back leg. In addition, use a tool to probe the floor ahead. Keep in mind, these techniques will only protect against a deck collapse, not a floor beam collapse. **BS**



Chief Vincent Dunn, FDNY (ret.), is a 40-year veteran. He is the author of "Collapse of Burning Buildings" (Fire Engineering, Revised 2010); "Safety and Survival on the Fireground" (Fire Engineering, 1992); "Command and Control of Fires and Emergencies" (Fire Engineering, 2000); and his most recent textbook "Strategy of Firefighting" (Fire Engineering 2007). He can be contacted at vincentdunn@earthlink.net. Visit him online at www.vincentdunn.com.



SLICE-RS

The latest fire research has prompted a different tactical approach. Read on to learn the truth about the sometimes controversial SLICE-RS concept.

By Eddie Buchanan

Unless you've been living under rock, you are aware of the fire-science research conducted by NIST and UL during the last decade. Their work will no doubt save firefighters' lives for years to come. We must be making progress because we are encountering some respectable resistance to change. Some are leery or intimidated by it, but I welcome the resistance as a sign of evolution. With any meaningful change comes controversy, and change within the fire service has been a formidable task in the past. If we simply reflect on the adoption of SCBA or 2 in/2 out, we can remember our opposition to changes that have since proven to save lives. There were (and maybe still are) those who would rather breathe through a cigar as a filter than don that sissy SCBA. Luckily, most of us have adapted and moved on.

Being known as the "SLICE-RS guy" is a badge I wear with pride. It has provided me a front-row seat for the fire-service change show. I want to clarify the SLICE-RS concept, but first, let me give you a brief behind-the-scenes view on how it came to be.

Blinded by Science & Seeing the Light

As president of the International Society of Fire Service Instructors (ISFSI) several years ago, my duties included attending meetings about fire service stuff. Some meetings were interesting and productive; others not so much. During one of these meetings, I met Dan Madryzkowski from NIST. Dan would spin his laptop around during the breaks and show me his work on fire dynamics, and he would blow me away. He challenged everything I thought I knew about firefighting. I would go back to my department and discuss what I learned with our senior officers. Long story short, after we got over our emotional reaction to the new information, we started trying to figure out how to use it. We knew there were a few lessons we should apply on the fireground to make our firefighters safer, but we also knew they would initially think we had lost our minds. We had

a hard time imagining how to apply what we learned while trying to overcome the 30 years of muscle memory one accumulates from always doing things the same way.

The operations chief and I actually attended a few fires and just stood back, trying to imagine how to implement the science. It was very difficult to envision these tactical changes because we were so programmed for RECEO VS (rescue, exposure, confinement, extinguishment, overhaul, ventilation, search), which Lloyd Layman created back in the 1960s. As we sat in my office after one of these fires, one of our instructors joked that maybe we need a new RECEO. You can probably imagine the virtual light bulb appearing above my head at that moment. If we started all over with no rules, what would it look like? We went to the white board and started to work through the fire-dynamic lessons with a modern fire-attack mindset, and that is how SLICE-RS was born.

A Safer, Smarter Acronym

SLICE-RS outlines five sequential actions and two actions of opportunity. You can see these steps in Figure 1. Although fairly self-explanatory, some nuances require additional comment.

The thermal-imaging camera is key during size up and when locating the fire. With the prevalence of vent-limited fires, it is vital that the company officer take their thermal imager with them during the 360-degree lap. This can provide quick intel on interior conditions they might otherwise miss.

Cooling from a safe location has gotten a good bit of attention. To clarify: We have never suggested an exterior or interior initial attack. The initial attack's location depends on the conditions upon arrival. The initial incident commander—sometimes the company officer—must make that decision. We have learned that firefighters can cool a large percentage of fires from an exterior position, although this is not always the case. The initial incident commander must consider visible indicators, such as smoke, flame and pressure, to determine the best place from which to cool or attack the fire. Depending on the fire's location and development, it might be best to take a traditional approach—through the front door. However, there will be many times when a safer, more efficient way to place the initial water exists. Either way, the first-due engine company should be trained to handle both interior and exterior scenarios.

How you apply exterior water matters. When applying water from the exterior, crews should employ straight or solid streams to avoid disrupting the thermal balance and to avoid blocking the vent opening made for cooling. A fog stream can block the vent opening, which will have a negative impact on interior conditions. A tight, steady straight stream applied at the ceiling is the preferred method for exterior water application. How much water? Enough to improve conditions. The SLICE-RS concept doesn't specify gallons or time. We want our company officers to make a decision based on conditions. Place enough water in the heated/high-pressure areas to reduce the thermal threat to the occupants and firefighters. Whatever that takes.

Revised Structural Fire Tactical Goals

SLICE-RS

Sequential Actions

Size up

Locate the fire

Identify & control flow path

Cool the space from safest location

Extinguish the fire

Actions of Opportunity

Rescue

Salvage

Figure 1

Rescue is not the very first step for good reason. We made rescue the first action of opportunity, rather than the first sequential action, because we thought this approach more accurately reflects reality. Sure, our first priority is life safety. It always has been and always will be. However, we don't face immediate rescues at every fire. Sometimes, we encounter a competent homeowner standing at the mailbox with the family neatly assembled, holding the family dog. They tell you where the fire started and advise you that everyone is out of the home. Can you believe them? I'm going with yes. Will I still search the house? Sure I will, but after I have managed the initial thermal threat.

On the other hand, you might arrive with a known or suspected rescue. In that case, we go for the most immediate rescue effort and do our best not to make conditions worse in the process by adding more fresh air for the fire. We know this tactic as VEIS (vent, enter, isolate, search). It allows us to punch into the area most likely to produce a victim and allows us to isolate the flow path as quickly as possible. Ideally, we would manage the thermal threat simultaneously, but that depends on staffing. If we can initiate a rescue and get water on the fire at the same time, we certainly will.

How you apply exterior water matters. When applying water from the exterior, crews should employ straight or solid streams to avoid disrupting the thermal balance.

We have had some experience with this tactic. We responded to a reported structure fire in a rural area with an extended response time. We got one engine with three personnel and a chief officer on scene of a working fire and known entrapment. Given the limited staffing for the first few minutes after arrival, the engine officer and firefighter entered the structure at the location closest to the occupant's last known position. The chief officer grabbed a line and applied exterior water into the fire area while the engine company entered the residence. The crew quickly located an unresponsive victim and removed them from the structure.

Sacrilege, you say? Applying water from the exterior while crews are inside? I used to think so too. But we found, yet again, that water greatly reduced temperatures inside the structure. The interior crew reported they felt a brief shot of steam, and then it got remarkably cooler. In the debrief, the crew indicated they only wished the chief had flowed even more water. Water makes fire conditions better, period.

Remember, the spirit of the VEIS concept is to isolate the flow path. We tend to think of this as specific to windows, but that might not always be the case. We used a door in the scenario described above and had no immediate way to isolate the flow path, but we did simultaneously flow water. Which brings us to a reasonable rule of thumb regarding rescue: When rescue must occur before the initial water application, consider the VEIS technique. When you are with or behind the water, consider traditional search methods. As we have learned the hard way through the years, every building is occupied until we say it's not, but we must consider the size-up information and respond appropriately and reasonably.

SLICE-RS Myths: Let's Cut the Crap

We have been operating with the SLICE-RS concept for a while now and find it a very aggressive tactical approach. In our experience, it helps halt the fire's forward progress immediately. This is an improvement over traditional tactics where we would arrive on scene with 25 to 50 percent involvement and end up burning the roof off the place. Now when crews arrive on an offensive fire, it's over in just minutes. Crews immediately initiate a strong knock on the fire and avoid many of the risks associated with modern-fuel fires. We very much consider ourselves an aggressive fire department, and our performance on the fireground speaks for itself.

That said, there are many misconceptions about SLICE-RS. I tend to attribute this to the “sound-bite training” common in social media. People take a sentence out of context and then run with it. Let me address a few of the common misconceptions.

- *“Hit it hard from the yard.”*

I’m not a fan of this phrase, and I don’t know where it started. It is in no way associated with SLICE-RS, but somehow it seems to stick. We encourage officers to use size-up information to make an educated decision on the best method to control the fire. The decision is dependent on a variety of factors. In my opinion, this phrase is a social-media phenomenon without real tactical value.

- *SLICE-RS abandons the victims.*

This is simply inaccurate. Life safety remains our highest priority. SLICE-RS takes a realistic approach to managing the problem, particularly with limited staffing. We have proven this on paper, in training and on the fire-ground. Anyone who says anything else is simply misinformed. SLICE-RS addresses rescue in a logical, real-world manner.

- *SLICE-RS chiefs never let anyone go inside.*

False. This is a great fire-service myth. I hear the naysayers make this claim, but I have yet to find this chief in real life. I’ll continue to look for this chief, but I suspect he’s hanging out with Bigfoot and the Loch Ness Monster. I believe this statement is simply a distraction used by those who are uncomfortable with change. I’ve also seen garden-variety tactics, such as personal attacks, used to distract focus from the facts. That’s really all it is: distractions. I’ve stopped reading that stuff because it is a waste of time, but I do believe it is important to correct all the tactical misinformation that exists.

- *Exterior water delays operations.*

It can if you let it, but if you train properly, it doesn’t. Our department has a method to apply exterior water and expedite the interior operations. Our pump operator assists in making sure the interior line is ready for immediate use. This was a key lesson from the research: Early water, and then a rapid hit at the seat of the fire. Failure to move quickly to the interior can result in unnecessary fire growth.

- *SLICE-RS won’t work on every fire.*

Yes it will. We created it do exactly that. On which fire will you not use those steps? SLICE-RS was a method created to help us develop a mindset that merges the research-based fire-dynamics lessons with the first-due engine company’s actions. Just as its partner RECEO-VS worked consistently (our incident commanders still use RECEO-VS to guide their command priorities), so does SLICE-RS.

What’s Next?

Our experience with SLICE-RS has proven the concept works. We are confident in SLICE-RS, but will always be on the lookout for information that might encourage us to modify our tactics. We’re very interested in studying the positive-pressure attack studies that are underway at NIST as of this writing. We will study the results of that research and evaluate how it impacts our methods for identifying and controlling the flow path.

One of the criticisms I've heard is that I'm just trying to sell people SLICE-RS, which gives me a chuckle. My only concern is that fire departments update their tactics in a way that acknowledges the new fire science information. SLICE-RS works great on my fireground. You have to decide what works on yours. Whatever you decide, do something! It is very troubling to see line-of-duty deaths that would likely not have occurred if the department had updated its tactics. Eventually the day will come when incident commanders will be held liable because they haven't updated their tactical operations. The information is mainstream enough now that a reasonable person should have known better, and ignoring the change might land you in an uncomfortable seat in the courtroom.

An upside to all of the debate and controversy is at least we are studying the material. The latest research is now in the spotlight, and people who yawned their way through their three hours of fire-behavior training are now studying intently. It is time to stop talking and take action. It's important to get outside and train. Simply changing your tactical plans without practical application in a training environment is a recipe for disaster. Find a method to incorporate the research lessons into your tactics and train your firefighters. This will help ensure that everyone goes home. **BS**

Special Thanks: I doubt anyone would have heard of the SLICE-RS concept if not for the support of the ISFSI. The organization's support and effort to save lives through training is amazing, and their work continues. They are in pre-production for additional videos that support the SLICE-RS concept and will launch their "Principles of Modern Fire Attack" (PMFA) program in 2015. PMFA is an 8-hour fire dynamics training program that will be delivered across the United States. The ISFSI received an Assistance to Firefighters Grant to deliver 100 programs in 2015. That is a great start to distributing the research findings and supporting tactics.



Eddie Buchanan is a division chief with Hanover Fire-EMS in Richmond, Virg., who began his fire service career in 1982. He is a past-president of the International Society of Fire Service Instructors and author of the Volunteer Training Officer's Handbook from Pennwell Publishing. He serves on the advisory board for FDIC and Fire Engineering and on the NFPA Technical Committee for Fire Services Training.

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Street-Smart Training

A guide to training firefighters for how they work in the real world.

BY BRIAN CRANDELL, ED.D



PHOTO COURTESY EUGENE SPRINGFIELD FIRE DEPARTMENT

Author's Note: This two-part article describes training methods that align with how firefighters actually learn and explains why those training methods work. Trainers can implement these methods independently or can combine them with other methods described in either of the article's installments. The more training methods instructors use, the more effective the training is. Most of the methods in this series address how instructors think and teach; many can be implemented immediately and at little or no cost.

I have spent several decades in the fire service as a firefighter, company officer and a command officer. I have served as the lead instructor trainer and operations chief for Montana's Fire Services Training School—the state's fire training and certification agency. In addition, I earned my doctorate in how adults learn. My doctoral research specifically examined how hazard-zone incident commanders learn. Through the years, based on my experiences, it has become clear that when firefighters correctly perform fireground work during training, they gain skills that apply at actual structure fires. Realistic training prepares firefighters to execute the work with a much higher probability of doing everything correctly and safely during actual incidents. My combined experiences continue to shape my view of how firefighters perform in the street, and how we as trainers and supervisors best support their learning.

Improving Firefighter Performance

Like most people, firefighters essentially learn by actually doing the work. When we deliver training in a way that uses this process, performance quickly improves. Based on my experience and research, there are four training methods that greatly improve firefighter learning:

1. Best work practices—Defining best work practices and turning them into operational SOPs helps firefighters learn. Trainers should use the SOPs as the basis for training sessions.
2. “Rep” best work practices—Once developed, firefighters should train on the best work practices/SOPs in an incremental way. Use best work practices as a script to rehearse the actual performance, then repeat the rehearsal until member performance meets or exceeds agency standards.
3. Feedback coaching—While training, it’s important to provide immediate feedback to learners because it allows them to make immediate fixes to their performance.
4. Performance management—A non-punitive, continuous improvement process uses best work practices and training to prepare firefighters. Performance management includes a critique-and-revision process, which refines and improves the SOPs based on actual incident performance.

In this installment, I describe the first two training methods: best work practices and rep best work practices. We will discuss feedback coaching and performance management in the next issue.

Best Work Practices

Develop & Use Relevant, Street-Smart SOPs

The more our SOPs reflect the best way to complete the work, the stronger their value to the training process. SOPs that reflect a best-work-practices approach to operating at incidents should align naturally with the training program’s content. Having members help develop SOPs builds buy-in from stakeholders and improves acceptance of the procedures. Use SOPs for the contents of your training program. As an example, the 8 Functions of Command outlined in “Fire Command: The Essentials of Local IMS” provide relevant, street-proven SOPs for training.

Why are relevant SOPs important?

- 1) Clearly described SOPs offer the best training content. Fire trainers who develop and use up-to-date SOPs for their training content create an effective learning system that applies seamlessly during incidents. Developing clear expectations for learner performance and sharing examples with the learner early in the training process will increase the training program’s effectiveness. For example, an instructor can have students watch a video of an SOP-based fire-company evolution, such as a forward supply lay. Using examples that show successful best-work practices has reduced learning times by as much as 56 percent. (Sweller, 1985).
- 2) SOPs become performance goals, which improve learner performance. Firefighters learn best when they understand their performance goals. The goals create a clear picture of what is important for our standard service. When fire-service trainers use best work practices—SOPs—as the basis of performance goals for their programs, firefighters learn more effectively. Research has shown that learners with explicit goals increased performance by as much as 16 percent. (Locke, E.A., et. al. 1980).

Rep Best Work Practices

Perform the Task to Learn It

Each time a learner correctly performs a training scenario (a repetition or a “rep”), the quality of the learner’s performance improves. A trial, error/correction, repeat and improve process proves very effective. Shifting the emphasis

of training programs to real-world, hands-on, in-context scenarios significantly improves learner performance for the time invested in training. This approach is similar to effective on-the-job training.

Why is performing the task important?

1) Firefighters learn best through repetition and by doing the work. When the work they perform during training matches the work they perform on scene, they are prepared to provide the best service possible. Repetition in a deliberate, goal-driven manner is the key to successful learning and optimal incident scene performance.

Past research shows that actively engaging learners (e.g. examples and walk-throughs, mentioned below) increases understanding 100 to 300 percent when compared to traditional lecture formats (Laws, et. al., 1999). In our current tight resource environment, can the fire service afford to use less-effective training methods?

2) Firefighters achieve expert-level performance through coached, goal-based practice over extended periods. In some cases, expert-level performance takes thousands of practice hours over many years (Ericsson, et. al, 1993). Learners who practice skills retain their abilities to use the skills. Those who do not practice lost skills at an alarming rate. In one study, some experienced a 63 percent decline in performance after 90 days and an 86 percent decline in performance after 365 days (Smith, et. al., 2008).

Use the Performance Routine (Crawl, Walk, Run)

A four-step process called the Performance Routine makes reps more effective. Steps include 1) examples 2) walk-throughs 3) low-speed reps and 4) real-speed reps. A coach should be present during all of the steps, described below, to provide feedback as necessary.

1) Examples: Showing learners examples, preferably videos, of correctly performed best work practices models proper techniques and sequence and helps explain why the work is performed a certain way. The coach provides information about the best work practice, including its origins and rationale, and offers tips for improved performance. This information is often used in mini lectures, delivered in the context of performing the work.

2) Walk-throughs are not performed on training props, but on clear, level ground with learners wearing work uniforms, street clothes or PT gear. This enables them to focus on learning the sequence of activities. Walk-throughs also minimize physical impact and heat stress, making training sessions more efficient.

During walk-throughs, learners move through the entire best work practice, verbalizing skills, actions and observed critical factors. Without tools, participants simulate the actual movements they will make when fully turned-out during later reps performed on training props. Learners initially use checklists and learning materials. They ask the coach questions to ensure their walk-throughs are performed correctly. They repeat the walk-through steps until they can complete the sequence error free, self-correcting as necessary, but without correction by the coach. Walk-throughs can be used for up to 50 percent of total training reps without sacrificing the performance and retention gained from physical reps alone (Corbin, 1966).

3) During low-speed reps, learners wear full PPE and work with tools on props at low speed. If a participant is uncertain about the correct sequence or



PHOTOS KEVIN CONANT



Top photo: Students participate in a walk-through.

Note the nozzle firefighter's hand position (white T-shirt) and the company officer's left hand position (dark T-shirt), which simulates holding a radio. The tool firefighter (grey T-shirt) simulates holding hose in his right hand and tools in his left.

Bottom photo: The students perform a low-speed rep of the same scenario. Hand positions match those practiced during the walk-through.

techniques, they can ask the coach questions. The coach works with the learner to determine the correct answer, and the drill continues with the learner correctly performing the rep. Low-speed reps allow learners to ask questions and complete the rep correctly rather than guess and make mistakes. Self-correction is expected, and reps are always corrected and completed from beginning to end. Low-speed reps continue until the learner can perform error free.

4) The real-speed reps occur after the learner has performed the specific techniques in the proper sequence, without error and with no correction from the coach. Real-speed reps are the result of improvements in performing the best work practice and correcting errors immediately, then finishing the rep. Working at real speed requires learners to master the techniques and sequence.

Why is the Performance Routine important?

The Performance Routine combines evidence-based training methods that support firefighter learning. The examples and expectations within the Performance Routine foster a question-and-answer process that builds learner interest and enhances their confidence in the training process and the coaches.

Walk-throughs allow learners to ask questions, which helps develop theoretical knowledge. Because they are not physically demanding, walk-throughs increase competence and confidence and reduce stress. Trainers who have used walk-through training methods extensively report an estimated 50 percent reduction in training time necessary to meet a standard. (Culbertson, 2014).

Use Realistic Scenario-Based Simulations

Developing realistic simulations of the work performed at actual incidents is challenging. Start by looking for places within your response area that would allow real-world, in-context simulations of the actual work. Buildings under construction and buildings that are not in use can be prime learning props. For example, use shipping containers for live-fire and no-burn drills. Intermodal containers are low-cost or no-cost training resources.

Why are realistic simulations important?

As stated previously, firefighters best learn when their training matches the best work practices they perform at incidents. The more closely the work performed in training aligns with the work required of firefighters at actual incidents, the better the training program. Training simulations built to recreate the context of actual incidents allow the learner's deliberate practice to match actual operating conditions at real incidents. **(For more information on deliberate practice, click the paperclip, right, to read "Perfect Practice Makes Perfect," Autumn 2014.)** Building training programs that simulate the work is straightforward. For example, if your SOPs call for the use of PPE when you are using extrication equipment at an incident, use PPE during extrication training. If your SOPs call for using SCBA (breathing tank air) when operating in an IDLH, use the SCBA (breathing tank air) when simulating operating in an IDLH.

Practicing scenarios, tactical evolutions and responses for simulated incidents prepares firefighters to operate effectively at actual incidents. For realism, make sure scenarios include all stages of the work, from before the beginning of the call to the end.



PHOTOS KEVIN CONANT



Top photo: Note foot position of the tool firefighter (gray T-shirt) as he supports the nozzle firefighter (white T-shirt).

Bottom photo: In the second low-speed rep photo, we see the tool firefighter's foot (left) supporting the nozzle firefighter (right). The company officer (center) holds his radio to his left ear. The tool firefighter holds tools in his left hand and hose in his right hand.



Use Crew-Sized Learning Groups

Crew-sized learning groups maximize learning and smooth the transition from the training session to actual incidents. The group size used during training should match the crew size used in the field. The group should have a supervisor, a company officer, and should include the positions, roles and intra-crew communications that reflect the actual work performed in the real world.

In the event the learner-to-coach ratio is larger than one coach to one work-sized training group, split the learners into multiple work-sized groups. Connect two training groups together with one coach. One group can perform the scenario while the other group observes the roles they will fulfill during the next scenario. There are benefits to watching others do the work. Some refer to this as *observational learning*.

Why are crew-sized learning groups important?

When training groups are the size of actual fire companies, it increases firefighter learning and generates a higher return (in terms of performance) on training time. Company- or crew-sized training groups also re-create the operating conditions that firefighters face at incidents, increasing transfer from training to field operations. Smaller training groups increase firefighter time on task and reduce unproductive idle time. When firefighters learn accurately and quickly, they can complete the objectives of the training program in a shorter period of time, increasing the return on investment for training time and reducing training costs.

Learners working in smaller groups receive more feedback from a coach (more correct reps). Additional reps and feedback improve learner performance. For example, the work required for eight firefighters to attack a fire with a 1.75" hoseline (sometimes pictured in training materials) is not the same work required for a crew of three firefighters to attack the same fire with the same hose.

Research has shown that when learner group size resembles the size of actual fire-company staffing, learner performance improves to a point where 97 percent of the students in a class will meet the average (standard) performance of a similar group using traditional, lecture-based instruction (Bloom, 1984). Related research also showed that teaching the same content using smaller learning groups can improve the average achievement by 40 percent (Springer, et. al., 1999).

Gradually Increase Scenario Complexity

Let's say we are training on how to attack fires in structures. Start with a simple scenario, such as attacking a fire in a detached garage. Next, train on attacking a fire in a single-story residence by adding a few more skills to the detached garage scenario. Continue with fires in a multi-story, single-family residence, then a strip mall, followed by a multi-occupancy residential and then a large commercial building. Each increasingly challenging scenario builds on the learning accomplished during the previous scenarios and adds a manageable set of new challenges.

Why is important to gradually increase scenario complexity?

Building scenarios from simple to complex is a stair-step learning approach that promotes skills transfer. Learners benefit from training programs that allow them to address simpler challenges first, followed by bigger challenges. This approach results in the transfer of capabilities learned from simpler scenarios to more complex scenarios. A stair-step approach to learning also creates a sense of authentic accomplishment in learners. When learners experience success, it builds trust and motivates them to meet greater challenges.

The learning transfer between the increasingly challenging scenarios will

have a high return for the students. You can apply the stair-step approach to any training: fire attack, rescue, wildland/urban interface, hazmat, MCI and EMS. **BS**

In the next installment, we will discuss Feedback Coaching and Performance Management.

With permission, the author has borrowed the work, words and wisdom of Chief Alan Brunacini. The author is solely responsible for any errors.

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Leadership Advice from good ol' **DAD!**

These fatherly words of wisdom
can help you be a better boss.

BY CHRIS GUSTAFSON



A few months ago, I wrote a short list of things we can learn from our mothers to become better company officers. This time I'll be proselytizing about lessons we can learn from our fathers, but yet again I feel the need to issue a disclaimer before beginning. Yes, I am fully aware that some fathers rock and others fail miserably; fathers fall everywhere on the spectrum between those two extremes. I was extremely fortunate in the paternal lottery, and I will reference him often in this discourse. I have also been incredibly fortunate to marry into families with great fathers, and I feel blessed to have had their guidance. And yet, as foster parents and longtime emergency medical personnel, my wife and I have seen some of the worst the world can offer up in the form of male family figures. Pull what you can from this, and seek counseling if your father was classified into an "underperforming" category. An aside... The most nerve-racking part of writing this article is trying to review mentally if I actually did these things with my kids, if I acted and taught as a father should; that and knowing that my father will read this and beat me if I recall anything incorrectly. They say to write what you know, so I sit here struggling to remember the lessons that have stood out over the years, the items I focused on teaching my children. Here are the lessons that still resonate with me.



It's Just a Flesh Wound

Or, "You're not hurt." Most of the time this statement followed a minor ground-level fall; never more than 6 or 8 feet up, anyway. Above 8 feet it became more of a question, "Are you hurt? Let's get you cleaned up before mom discovers anything." (Note from the author's wife: This is not acceptable. Please stop playing on the roof with the kids.) Mom was there to kiss the elbow abrasions, but Dad generally didn't want to hear about your minor concerns. A lot of lessons stem from this one statement, and they all come down to this—some things might hurt for a minute, but shake it off and move on.

More often, I can apply this to all the overly sensitive feelings that seem so prevalent in and around the station. Maybe it's just my uncouth, caveman behavior, but now and then people need to hear, "That didn't hurt you. Suck it up." Maybe you got your feelings hurt or scraped your knee. Guess what, it'll go away. Stop being so sensitive. Joking about a personal failure or shortcoming is a time-honored firefighters' system of gently letting someone know they need to change. "In jest, there is truth." (William Shakespeare, "King Lear"). If there are constant asides and teasing about your breath or body odor, brush your teeth and take a shower. If there are consistent comments regarding your on-scene reports, driving or firefighting skills, don't go around whining that they're picking on you. They're trying to help your social life and their potential survival. Man up, commit to some self-improvement and apply the lessons to the next incident. Be grateful they're even joking with you; nothing is more disconcerting, or dangerous, than silence in a fire station.

Disclaimer! Nowadays you can't apply this mindset at all for any type of on-duty injury. I've been burned before when guys say they are fine, and then return a week later with a debilitating back injury. (Some of those were pretty shady.) Now everyone gets to fill out an injury report. If the injury is truly gone next shift, we'll shred the paperwork.

Wash Everything in Cold Water

You can't know how to do everything, so it's good to have a default setting. For laundry, if you're unsure, use cold water and a stiff-bristled brush. I learned this lesson from my "temporary fathers," my drill instructors at MCRD San Diego. Maybe Mom taught you to separate your clothes, pre-treat stains and use the correct water temperature for each pile. Until you've obtained that wisdom, use cold water.

We can't know everything on the fireground, either. In my opinion, that is the most attractive thing about firefighting: You never know what you're going to get. Every intoxicated customer at the bus stop is different from the next, maybe just by what he's imbibing. We should always have a fallback plan—a "wash everything in cold water" plan. That fail safe is our SOPs and the standard set of actions we take at the beginning of an event to guide us through the first few minutes. There have been several instances where I've rolled up on a scene and experienced the momentary panic of, "Holy sh**." We never covered this." But I simply relied on regurgitating a well-rehearsed on-scene report and assigning units to address the most immediate needs. The details came later. With each event, I learned a little more about the best way to handle the unforeseeable—how to wash the clothes so they all came out looking good. But...

Learn As Much as Possible About Everything You Can

I tried to brainstorm all the major things I've learned from my father. Do you realize how impossible that is? There was a lot of material. Here are a few examples:



- A strong handshake
- How to tie a tie
- How much to tip
- How to safely handle and fire a weapon
- "Lefty loosey, righty tighty"
- How to ride a bike
- Driving a stick shift. Real driving!
- Making pancakes in different shapes
- Basic car repairs and maintenance
- House and yard upkeep

Some of the best lessons came from simply holding a flashlight for Dad. Of course, there was always the underlying terror at any minute he was going to send me to find a mysterious tool (like a 9/16 box-end wrench), and if I couldn't find it where he said it was, then the open-ended menace of "If I find it where I told you to look..." threat was coming. Sitting quietly and listening can teach you as much as a semester of school. That's no different from learning in the fire service. The opportunities seem much more prevalent earlier in your career, but even chief officers can learn a considerable amount by simply listening to those with more experience. The great thing about diversity is that it brings so many points of view to the job. I've learned great things from listening to everyone around the kitchen table, from how to fix a broken sprinkler line to a better way to staff a unit. Sit quietly, hold the flashlight and learn something.

I'm Not Your Friend. I'm Your Father.

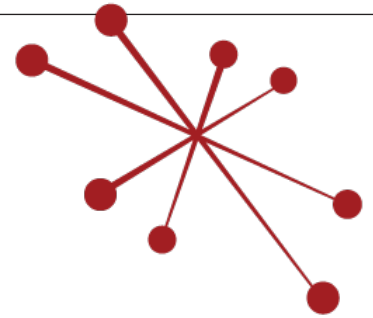
There needs to be a distinct line between a parent and a kid. I thought I used the phrase, "I'm not your friend, I'm your dad," sparingly. Apparently, that's not the case. When my sons were in their early teens, I joked about going out with them and their friends. They were quick to remind me of my old stand-by saying. At first I was stunned into silence that they'd actually listened to anything I'd said. Then I was overcome with pride that they had! You can't be the disciplinarian you need to be if you're palling around all the time, whether it's your children or your crews.

There has been some recent discussion in our department regarding chief officers wearing white shirts while serving in a first-responder assignment. Some feel there is plenty to be gained in clearly delineating, by sight, who is in charge. We already do it with helmets, so why not with shirts? I see the pros and cons to both sides. Quite honestly, the biggest drawback to white shirts as an on-duty responder is keeping them clean. Wearing white will definitely cut into how much salsa I can throw down at meals. But, as a parent I never had the inclination to wear the same style clothing as my children. I never wanted to listen to their music and wasn't interested in being their friend. The joy and satisfaction has come from transcending what a friend is to them. They've had dozens of friends. They have one father.

Your crews have several other firefighters/engineers/captains to hang out with in multi-company stations or after hours at the bar. They have decidedly fewer chief officers. Take advantage of that. Be the leader they want and need. Challenge them, mentor them and help them grow. Guide those trying to promote and provide options for what they can do with their careers. Discipline when needed, but administer it with a sense of justice and always with the idea that any consequence should always have as its end goal a way to redirect and teach.

Unity Is Key to Success

Mom and Dad have been married more than 48 years, and as far as I can tell, they're still going strong. There have been some crushing hardships in



Dad was your parent, not your pal. At work, you're not the buddy, you're the boss. Act the part!

that time, but they have powered through them. Anyone who's been married for any length of time knows how painful some periods of life are. One comment my father passed on bothered me for years, but as a father now, I understand it completely. "I had you, but I chose your mother." There was never any doubt on our part that Dad was going to defend our mother, even against us. That absolutely did not mean behind the parental scenes there weren't power struggles, disagreements and occasionally, loathing. That's marriage. But to us, they presented a united front.

As a battalion chief, I disagree with certain policies all the time. Within the gold-badge ranks we have power struggles, disagreements and occasionally, loathing. The key is presenting a united front. I'll be honest: This is a glaring weak spot in my leadership capabilities. The ability to censor what I say is seriously lacking. But unity, or even just the appearance of it, is a key to success. Not just for me, but for the organization. How different would our family dynamic have been if Dad had come to the kitchen table venting about our mother? There is no difference if I go to the stations venting about my superiors or peers. All it does is make me look bad and tacitly implies permission for the crews to do the same. It doesn't build confidence in the organization or the unity of those leading them. It certainly doesn't build a feeling of hope for where the department is going.

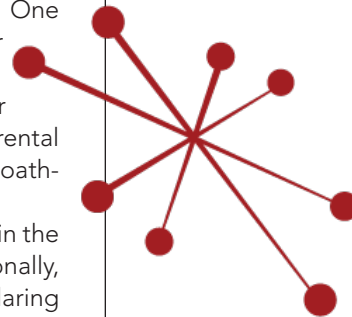
If you have an issue with a policy or a direction your department or division is heading, make the time to speak with the decision-makers in private and voice your concerns in a productive manner—"productive manner" being the key point in that comment. Telling someone, "That sucks," is not suggesting improvement; it's just whining. Maybe you can bring to light something that hadn't been considered, or maybe you'll be enlightened to why a certain decision was reached. Either way, once you've had the opportunity to voice your opinion, move on, support it, or just keep your mouth shut.

If you're a little higher up the food chain, allow your personnel to approach you with concerns they have. Otherwise, they'll have nowhere to vent except to the crews in the field, and that won't do anyone any good.

Do the Job Right the First Time

I recently saw this picture of a military barracks (see right). The explanation was this: "Only a Marine will understand." And I did. Instantly! What I don't know with confidence is if I recognized the destruction from my boot-camp experience or from being with my parents for 17 years. In the barracks, an unlocked padlock or an incorrectly folded pair of skivvies could, at the right moment, send a drill instructor into a paroxysm of rage worthy of poetry. Yes, it was extreme, but there was still a purpose. Loose gear or inattention to detail could not only get you killed in combat, but more often, and more important to hormone-driven young men, make you look like a slob in uniform, and that was the Air Force's field of responsibility and expertise.

Dad never destroyed the house, but when we did dishes by hand, my father would occasionally come and inspect the completed tableware. (My parents still don't have a dishwasher. It's all very Zen.) If there was a dirty dish, we had to do it over. If we had done a lazy overall job, we did them all again. It sounds worse than it is. No one has ever, to my knowledge, died from that level of exertion, but it did teach important lessons about doing things right the first



time, being attentive to your work and having pride in what you do. It was that way with everything. If we were told to do a chore, we knew it would be inspected to ensure we did it correctly. There's something pleasant about knowing your work is actually being reviewed. There's no possibility I recognized all the positive lessons that came from those actions at the time. Then it was just another moment of parental oppression. On another positive note, when we did something well, we were praised. There was absolute justice in the verdict of our work.

Nothing is ever going to be perfect. Even if it is, give it time. It will wear down, become obsolete, need a new gasket or a fresh coat of paint.

Remember, there is a difference between doing a job and finishing a job. If I ask my kids to trim tree branches, the job isn't done when the branches are cut. Technically, they've completed the assigned task, but the chore isn't over until they have thrown away the branches and raked up the area. Don't be assigned a job and do the bare minimum. Lead by example in this. If someone asks you to do something, complete it entirely.

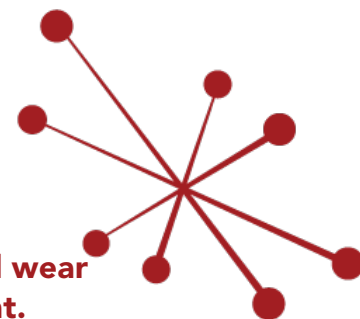
Life Is Preventive Maintenance

Every now and then, my father will deliver a piece of advice he remembers nothing about, but it adheres in my mind. I don't recall how it came up, probably following my being peevish about another item giving up the ghost around the house (!@#%^\$ water heaters...). Dad responded with, "Life is preventive maintenance." Why that stuck with me, I have no idea. But I have found it to be one of the truest things he's ever uttered, followed closely by, "Live by the schedule, die by the schedule." Nothing is ever going to be perfect. And even if it is, give it time. It will wear down, become obsolete, need a new gasket or a fresh coat of paint.

Running through a hose drill one time doesn't mean the crew never needs to do it again. Life is keeping up with skills. Today's firefighters have a slew of things to keep up with. Hazmat, technical rescue, emergency medicine, driver training, promotion preparations and fitness are just a handful of the skills we're expected to maintain. Sometimes it's difficult finding the time to accomplish even the most basic of drills. As I write this, I've been trying for two weeks to find an open spot on the schedule to put together a multi-company drill to prepare our engineer hopefuls for the upcoming promotional process. I know we all say we're competent pulling a quick attack line or putting a reverse portable monitor on the ground, but saying it at the kitchen table and doing it in the street are worlds apart. Keep your crews not just competent on the basic hose lays, but smooth as butter. Apply the same standards to yourself. Practice an on-scene report next time you're killing time at a long stoplight. Go to those seminars you keep saying you'll attend. Check out the numerous free websites or just read a professional-development book. Don't let the paint start peeling on your professional life.

Sometimes You Just Need to Go to Pete's Fish & Chips

I think every kid has a story about a special time or routine they had with their father. For me, it was going to the dump with Dad. We would do the lawn work around the church grounds, and that would often necessitate a trip to the dump. If things went well, we would usually stop at Pete's (www.petesfishandchips.com), a local chain of greasy restaurants. It wasn't so much the food (which is completely awesome!) as much as the time we spent together. I don't recall any deep conversations, no life-altering decisions made over breaded fish patties, but I do remember the time as happy. And that is enough.



You can't lead people from a distance. Get out of your office and get in the kitchen. Have some meals with the crew. Do some physical training with them. Get out there and drill with them, and if there is someone getting ready to move up to captain or battalion chief, use the opportunity to mentor them with some simulated assignments during the drill. Just spend time with them. Like a father, they probably won't reminisce about the details of what you did, but there will be the memory of you being there. Knowing you care enough to be there with them is sometimes enough.

Now, go home and hug your kids. Spend some time with them. And, for God's sake, call your dad and tell him thank you. **BS**



Chris Gustafson has been a member of the Glendale (Ariz.) Fire Department for more than 19 years and currently serves as a battalion chief in the city's southern portion. He is certified as a paramedic, hazardous and technical-rescue technician, incident safety officer and terrorism liaison officer. He is a father to four (mostly good) children, four and a half grandchildren and numerous foster children. Contact him anytime at cgustafson@glendaleaz.com

A Unified, Multi-Department Response

Successful commercial fire highlights teamwork among several Northern Colorado fire agencies.

BY GREG WARD



When the initial attack had little impact on the fire, the IC changed the strategy from offensive to defensive.

On July 9, 2013, at 9:16 p.m., the Loveland (Colo.) Fire Rescue Authority (LFRA) was dispatched to a commercial-office fire on North Lincoln Avenue in central Loveland. While en route to the scene, Battalion 1 requested a second alarm due to conditions visible from a distance. Engine 1 arrived on scene within 4 minutes of dispatch and completed LFRA's Blue Card initial and follow-up radio reports, including our first benchmark of *360 complete*. Arriving crews encountered a medium-size, two-story office building with a basement, built in the early 1980s. Fire was showing from the Charlie/Delta corner of the attic, and smoke was showing from the entire attic space. E1 declared an *offensive strategy at a medium level of risk* with the intention of making a quick hit on the visible fire from the exterior before transitioning to interior attack operations on the 2nd floor. E1 secured its own water supply. Based on the time, crews suspected the building was unoccupied. B1 arrived on scene and confirmed the follow-up radio report (incident action plan) with the initial incident commander (the officer from E1); command was then upgraded to B1.

The balance of the first alarm began to arrive on scene. Squad 2 was

charged with gaining access to the structure for the engine companies. Engine 5 was tasked with establishing a second water supply and deploying a second attack line. Truck 6 was given the assignment of completing a roof report. After several minutes, the officer from E1 reported the fire attack was having very little impact and fire was visible throughout most of the attic space. The IC initiated the emergency radio tone from the battalion chief vehicle and changed the strategy to *defensive strategy at a low level of risk*. All companies cleared the building and delivered PARs. The IC divided the structure into two divisions, with tactical-level supervisors assigned to each division. Initially, company officers were assigned to the division-supervisor positions; these positions were upgraded to battalion chiefs once second-alarm resources started arriving on scene. The Bravo Division covered the Alpha and Bravo sides of the building, and the Delta Division covered the Charlie and Delta sides.

Additional water supplies were established for LFRA T6 and Poudre Fire Authority Ladder 5 to initiate elevated master stream operations. E1, Engine 3, Engine 6 and Berthoud Fire Department Engine 2 deployed numerous ground master streams. Poudre Fire Authority Battalion 2 was assigned as the incident safety officer, with the objectives of establishing a collapse zone and perimeter air monitoring. As the IC depleted the tactical reserve, a third alarm was requested with responding companies assigned to a staging location on a separate radio channel. A command team was established to support the IC: The operations chief worked as the support officer, and the fire chief filled senior-advisor duties.

The operations chief from the Johnstown Fire Protection District was assigned as the staging manager. Third-alarm companies were assigned to on-deck positions within the divisions, allowing the supervisors to recycle and rehab crews as needed. Once the Frederick-Firestone battalion chief arrived on scene, a second safety officer was assigned, providing a safety officer for each division. An additional aerial master stream was put into place on the structure's Delta Side on the arrival of LFRA Reserve Truck 7. The division supervisors and safety officers worked together to establish and communicate the collapse zone around the structure.

The warm, dry, calm weather that evening created an inversion that held the smoke low to the ground in the fire area, which became a concern for the neighborhood directly east of the building. Command assigned LFRA Utility 1 and the Greeley Fire Department chief to monitor the neighborhood and identify evacuation needs. The City of Loveland Emergency Manager and the on-duty Thompson Valley EMS supervisor assisted with identifying and communicating shelter locations. Thompson Valley EMS also established and staffed a rehab station for firefighting personnel.

The bulk of the fire was controlled in approximately 2 hours, and the fire was declared under control in just less than 6 hours. LFRA crews remained on scene for more than 35 hours for overhaul and investigation. The building sustained major damage. However, it was not totally destroyed. It has since been repaired with tenants moving back into the reconstructed portions. The investigation revealed that a maintenance operation earlier in the day caused the fire.

Off-duty recall personnel staffing three additional reserve companies, along with the Poudre Fire Authority and Windsor-Severance Fire Rescue,



Crews employed elevated and ground master streams after all companies exited the interior.



An additional aerial master stream was put in place on the D side.

Loveland Fire Rescue Authority

Population: 97,458

Service Area: 194 square miles

Fire Stations:

- Five staffed stations
- Three volunteer stations in Big Thompson Canyon
- ARFF station at the Fort Collins-Loveland Airport staffed on an as-needed basis

Minimum staffing: 22 personnel on duty including the Battalion Chief

2014 Total Incidents: 7,003

provided backfill station coverage during the incident.

This incident had many challenges, but they were successfully met in large part due to Northern Colorado's regional Blue Card Training and Certification. Although commercial building fires are rare in Loveland's response area, LFRA was prepared because of its commitment to improving strategic- and tactical-level operations, which supplement a strong foundation of well-honed, task-level skills. "Listening to this fire from early on, it sounded like one fire department operating at a training exercise," said Greely Fire Chief Duane McDonald. In reality, there were six fire departments operating on scene with chief officers from five of these departments filling roles within the command structure. All of the responding departments have embraced Blue Card and have become certified.

LFRA's Risk Profile

- *We may risk our lives a lot, within a structured plan, to save savable lives=high level of risk*
- *We may risk our lives a little, within a structured plan, to save savable property=medium level of risk*
- *We will not risk our lives at all to save lives or property that are already lost=low level of risk*

The IC announces the risk level during the follow-up report along with the strategy. If crews are entering a building that might have civilians inside, the risk level is set at high until crews conduct a search, then the risk level drops to medium. The change in the risk level is announced over the radio. This lets crews know the risk level is continually being evaluated, and they are now operating inside the structure for the structure itself and not civilian lives.

At this particular fire, nothing indicated civilians were inside the commercial office building at 9:16 p.m. The initial IC set the risk level at medium, indicating to the responding companies that operations were geared toward saving the building and contents (we may risk our lives a little, within a structured plan, to save savable property). Had there been any indication the structure remained occupied, the IC would set the risk level at high, and crews would have initiated a primary search.

The continued assessment of the risk level is verified through the risk-profile change that is announced over the radio with significant benchmarks, such as primary search complete and fire under control. The risk level is also reaffirmed during a change in the incident strategy.

Lessons Learned

The Blue Card-influenced design of LFRA's battalion chief vehicle proved very effective for managing this fire's command and control. Well into the incident, the City of Loveland Mobile Command Vehicle was staffed and available to respond. The vehicle was not utilized because the BC vehicle served as the command post. However, there were many other logistical needs the Mobile Command Vehicle could have fulfilled, such as meetings with the building

Taking Control of Command Training

In 2009, the Loveland (Colo.) Fire Rescue Authority implemented an improvement plan for command and control. This plan included training in situational awareness, tactical decision-making under stress and the Blue Card Hazard Zone Management System for our chief- and company-level officers. A command training center (CTC) was established thanks to great partnerships with City of Loveland resources and the ingenuity of LFRA personnel. LFRA decided the chief officers would lead from the front on this initiative. Therefore, the chief officers completed the first Blue Card certification class in the fall of 2010, followed quickly by the company officers. Our neighboring automatic- and mutual-aid partners have adopted the Blue Card System and have initiated the certification process through LFRA. Many of these departments have developed their own CTCs.



At this incident, personnel from several agencies worked seamlessly due in part to unified regional training.

The LFRA's Blue Card instructors have conducted more than 30 Blue Card certification classes for fire officers throughout Colorado since 2010. LFRA was fortunate to establish strong relationships with several key Colorado fire agencies that have helped take lead roles in Blue Card training in the Denver metropolitan area and in Colorado's mountain areas. These agencies include Arvada, South Metro, West Metro and Vail. These relationships have allowed LFRA to focus on helping the Northern Colorado fire departments with the Blue Card certifications.

Fire Companies & Supporting Agencies

1st Alarm	2nd Alarm	3rd Alarm	Additional Resources
LFRA Battalion 1	Poudre Battalion 2	Windsor Battalion 1	LFRA Reserve Truck 7
LFRA Engine 1	LFRA Engine 3	Johnstown Engine 1	LFRA Utility 1
LFRA Engine 5	LFRA Engine 6	Frederick-Firestone Engine 3	Johnstown Rescue 1
LFRA Squad 2	Berthoud Engine 2	Greeley Engine 5	Poudre Air/Light 1
LFRA Truck 6	Poudre Ladder 5	Johnstown Operations Chief	Loveland Fleet Maintenance
Thompson Valley EMS	LFRA Rescue 6	Greeley Fire Chief	Loveland Water/Power
Loveland Police Department	LFRA Chiefs 1-7	Frederick-Firestone Battalion 1	Loveland Public Works
			Loveland Building Department

owner, operational-period briefings and discussions with agency representatives.

Shortly after this incident, LFRA recognized the need to give the Loveland Police Department (LPD) a brief overview of the Blue Card system, LFRA terminology and command-post operations. This training was delivered to LPD lieutenants and sergeants in August 2013.

The established LFRA alarm levels lacked the appropriate number of truck/support companies in greater alarm assignments. This has been corrected to include four truck companies and a heavy rescue squad in the first three alarms. These companies are in addition to the engine companies and chief officer depth already built into the alarm assignments. **BS**



Greg Ward is the division chief of operations for the Loveland Fire Rescue Authority (LFRA). He has been in the fire service for 24 years, serving with the Berthoud Fire Protection District, the United States Air Force Academy Fire Department and the Black Forest Fire District. He has spent the past 20 years with the Loveland Fire Rescue Authority. Greg is proud to be a third-generation Colorado fire service chief officer.

RICs & Their Roles

Rapid intervention is a capability, not an assignment.

BY NICK BRUNACINI

In each issue, *The Drilldown* presents a training package that addresses a different aspect of hazard-zone management. This edition of *The Drilldown* offers a firefighter safety and survival audit.

Here's how this issue's training package works:

1. Read the following article, which provides an overview of the subject matter.
2. Download the PowerPoint presentation on pg. 49. It works with the article and connects task-level safety requirements to incident organization's tactical and strategic levels.
3. Enjoy!



Free!
Training Module

During any five-day Blue Card train-the-trainer program, it has become commonplace to spend an inordinate amount of time discussing 2 in/2 out and rapid intervention. This pair of task-level resources can completely derail any strategy and tactics discussion. In a very real sense, this distracts us from the reason we exist in the first place: Not to set up RIC, take command or manage our air judiciously, but to keep the village safe. This installment of *The Drilldown* is a firefighter safety and survival audit. We will use it to examine the balance of keeping the town from going up in flames without killing or injuring ourselves.

Rapid intervention has evolved to become a separate, distinct and untouchable title we make in order to operate on the interior of burning buildings. Some responders believe rapid intervention is the most important element of a structural firefighting operation. RIC/RIT has become our Templar Nights and Joan of Arc all rolled into one. How did this happen?

I believe our service has deliberately sequestered the rapid intervention and safety officer components from standard structural firefighting operations. We did this because historically we have initiated the regular incident operation in a chaotic fog that escalates further out of control with each additional company. Safety officers were born from this mayhem when some forward-thinking fire chief decided firefighters engaged in structural firefighting suffered sensory overload. Safety officers were created to monitor incident conditions in an effort to reduce and eliminate firefighter injury and death.

During my career, the major issue with safety officers was the huge difference in their perceived job descriptions. Some safety officers claimed their primary mission was to review, verify and validate the IC's orders. Others believed their primary mission was to ensure all firefighters operating at the scene used the required safety gear in a safe and proper manner. Some believed it was their duty to fill any empty airtime over the tactical radio channel. I find it odd that the most chaotic and dangerous incident scenes I've encountered had several orbiting safety officers. Throughout most of my career, our Safety Division was not part of Operations. During this time, I sensed our safety officers believed they were our operational overlords. It was a dysfunctional relationship.

On-Scene Safety Brought to You By the Letters R, I & C

My department started doing RIC operations in 1983. A sprinkler-controlled arson fire in a carpet warehouse triggered this decision. Engine 23 advanced an attack line through the offices located on the structure's Alpha Side. After advancing into the warehouse, they ran out of line and made the fatal mistake of leaving the line to search for the seat of the fire. Ten minutes later, the captain of E23 was dragged out of the building, intubated, loaded into the back of an ambo and transported to a trauma center. Halfway there, our captain sat up, extubated himself and said his good-byes to the dead grandmother he'd been chatting with after he stopped breathing. He made a full recovery and starred in the training video, "The End of the Line." This event made wandering off attack lines a taboo practice in my former department. It also marked the beginning of automatically sending an additional engine company to the scene anytime the IC reports a working fire.

The term for this additional company was "rapid firefighter rescue crew." This was later shortened to rapid intervention crew, or RIC. Back in those days, we sent a pair of engines, one ladder and a battalion chief to the scene of house fires. The RIC became the third engine on the dispatch. The intent of this extra company was to serve as a tactical reserve for firefighter mayday emergencies. Since that time, RIC has evolved into its own religion. To complicate matters further, we've added the concept and term initial rapid intervention crew (or IRIC) to our safety toolbox. IRIC is the product of OSHA's 2 in/2 out. The 2 in/2 out legislation was the IAFF's second choice to secure four-person staffing for engine companies. Their first attempt was NFPA 1500, the standard to mandate minimum staffing. This quickly became a very emotional political battle between the IAFF and the volunteer fire service. The vollies were able to exclude staffing requirements from the 1500 standard. A few years later, the NFPA produced staffing standards for both the volunteer and career fire service, NFPA 1700 and 1710. By the time this pair of standards was written, OSHA's 2 in, 2 out was firmly established. Today it remains the only rapid-intervention legislation on the books.

In my opinion, if you can't maintain a tactical reserve, you shouldn't operate on the inside of burning buildings. I also have the deeply held belief that 2 out is not a solution to prevent or resolve firefighter maydays. My former department embraced 2 out. We trained our entire department in this OSHA law. It quickly became another check box on the tactical worksheet. Our fire department ran the emergency ambulance service. We staffed our ambos with two young firefighters and equipped every ambo with a pair of SCBAs. The young firefighters assigned to the ambos had joined up to be dragon slayers, not drivers and attendants, so they banded together to force a name change from "ambulance" to "rescue." If it quacks like a duck...

The simplest 2-out solution was to assign IRIC to the ambo-rescue. This was a wild-ass mistake that took safety to a new low. Our initial 2-out procedure had the IRIC stand by with a charged attack line. Expecting a pair of young

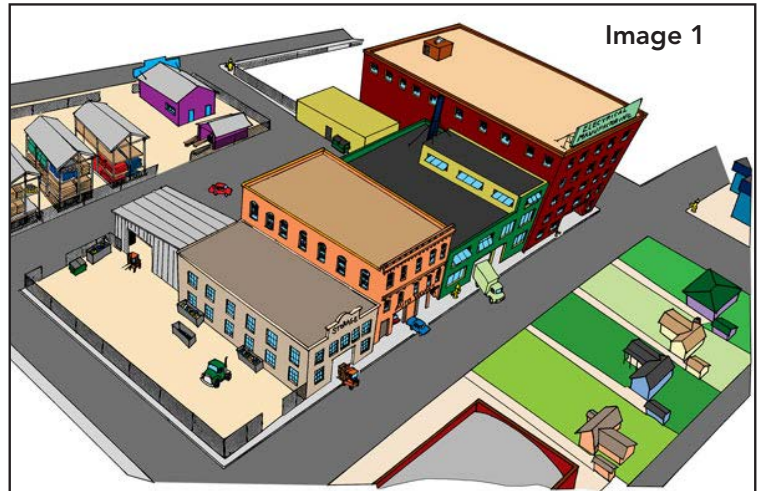


Image 1

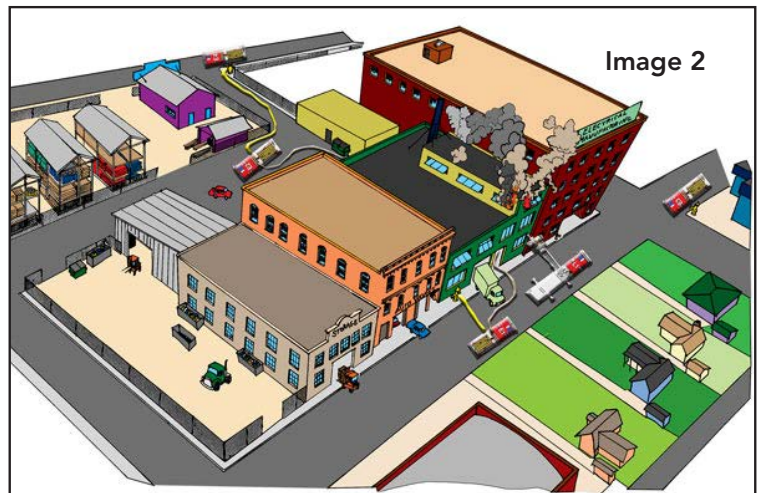


Image 2

The difference between these two images is the building in Image 2 is on fire. The fire department responds to protect life and property. The fastest, most effective method of doing this is to remove the fire.

We achieve firefighter safety and the overall incident goals (i.e. the tactical priorities) by eliminating the fire. As the fire continues to burn, it becomes larger and more destructive. It's so simple it seems stupid. Put out the fire.

firefighters to stand idly by with a charged attack line in front of a burning building was asking for trouble. The 2-out practice quickly became a jumping-off point for freelancing. The combination of properly staffing a fire department, reining in the out-of-control ambo-rescue corps, initially dispatching sufficient resources for structural firefighting operations and assigning the third-arriving engine to assume RIC forced the sunset of IRIC in my former department.

A Path to Injury Paved with Good Intentions

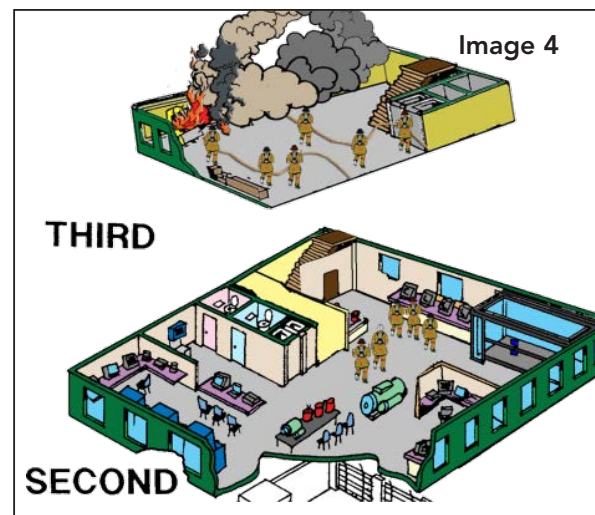
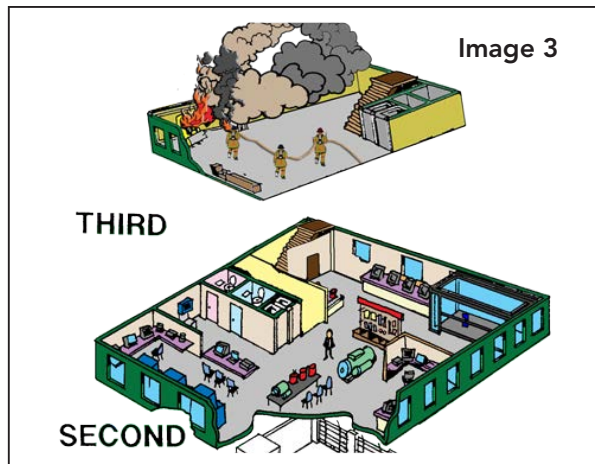
Over the next couple of decades, we added accountability systems, beefed up our RIC operations, sent the department through Save Our Own training and basked in the glow of our operational effectiveness. Then on a windy March day in 2001, we had a fire in an old grocery store that melted down every system we used to manage our safety. This nasty event killed one of us outright. When we caught our collective breath, we got hit right between the eyes with the realization that we were beyond lucky that we hadn't killed a dozen more. During the next five years, we did a forensic analysis of our operational SOPs and the systems, gears and tools we used to provide and manage our safety. The main goal of this recovery effort was to fix our rapid-intervention system. I believe it remains the largest firefighter recovery effort to date.

The original set of RIC drills we conducted included thousands of firefighters working on hundreds of engine and ladder companies. The set of nasty facts revealed by our forensic analysis couldn't be ignored—rapid intervention is not rapid. We gradually came to understand that rapid intervention and safety officers are not substitutes for a real tactical level, and working company officers are not tactical-level bosses. We had lost strategic control at the fire in the old grocery store. This led to an additional two dozen mayday transmissions over the tactical channel during the rescue operation. The IC didn't regain strategic control until safety officers and staff chiefs on their way home reported (actually freelanced) to the scene and assumed the roles of tactical bosses.

More of What Ails You Can Hurt You

The addition of safety officers and rapid intervention crews cannot fix a system that's out of balance. This brings us full circle to why we intentionally left RIC and safety officers as detached, standalone antidotes for our out-of-control operational approach. It's impossible to connect RIC and safety to an operation that is taking place in the fog of lethal chaos. Sequestering these components via a separate radio channel and their own family tree within the incident organization doesn't make things rapid. In some systems, the RIC is responsible for tracking all assigned resources. Having a task-level asset (that's what a RIC is) perform strategic-level accountability reinforces the notion that the IC and the rest of the regular operation are completely out of control. The fact that we need a dedicated radio channel for safety/RIC proves the regular tactical radio channel is oftentimes overwhelmed (and out of control). Transmitting a mayday over the tactical channel is like adding pure oxygen to a fire.

The problem with these detached safety systems is that mayday happens to a member (or members) of the regular operation. The RIC cannot communicate with the mayday firefighter(s) when they are on a different radio frequency. A popular solution is to have all the firefighters currently engaged in the hazard zone switch channels, while the RICs go to the tactical channel to make contact with the mayday firefighter(s). However, the majority of maydays are resolved by crews that were in place and working prior to the mayday. Having an SOP that forces the closest help to switch radio channels in the middle



The initial crew has established the initial attack position on the Alpha Side of the building by establishing an uninterrupted water supply. The crew advanced an attack line to the fire floor to eliminate the fire. Quickly eliminating fire saves lives and property.

Placing enough resources on the 3rd floor to control the fire quickly makes the scene safer for everyone. Assigning on-deck crews to the 2nd floor places a tactical reserve where it can quickly be deployed to assist with the attack. Assigning a tactical boss to manage the fire attack on the 3rd floor places strong operational leadership in the warm zone, increasing firefighter safety. This also keeps the IC's span of control manageable.

of a firefight and a mayday is unrealistic. I don't think in-place, working crews will switch channels.

Real Men Burn Too

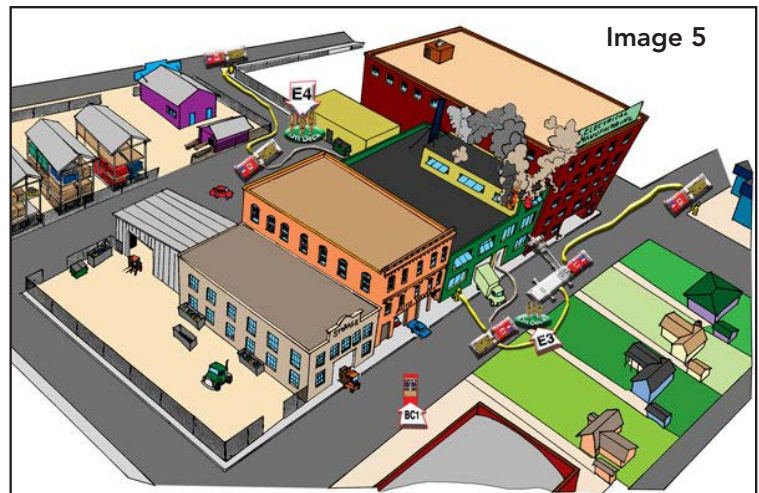
When we examine mayday situations, it becomes very apparent the most lethal ones are strategic in nature. This happens when firefighters operate in offensive positions under defensive fire conditions. Having the whole roof collapse or having the entire interior flashover kills firefighters in bunches. This is where we've empowered the safety officer to break in, speak up and get everyone out of harm's way. The problem is this constitutes almost 100 percent of the IC's strategic-level safety responsibility. If the troops won't (or can't) listen to the IC, it indicates the system is broken. Instead of fixing the system, we talk about how chaotic, confused and hazardous the fireground can be. A popular solution to this problem is to man up. If we could just be more of a man, everything would be okay. The physical reality is that real men and false men have exactly the same ignition temperature.

The key to fireground safety includes managing the position and function of all hazard-zone personnel while eliminating the fire. The strategic capability of controlling positions and functions requires the IC to maintain an effective span of control. Having six or more task-level units reporting to a lone IC is not an effective span of control. Believing a working company officer can supervise their crew and also operate as the "interior sector" responsible for two to three other task-level companies is pie-in-the-sky bullshit. We reinforce this span-of-control mistake as a safe and effective practice whenever we control a fire with one attack line in the first 5 minutes of the incident operation. Take that same organizational approach on an offensive fire that will require multiple attack lines and two to three crew rotations, and you are now operating without a tactical level. This is no man's land; any disruption on the task level can quickly take out strategic-level control.

Once an attack position requires three or more companies, a warm-zone tactical boss must take control of that position. A working company officer does not operate in the warm zone and should not be given this assignment. Assigning a true tactical-level boss in these situations takes the IC's span of control from three down to one. It also places tactical control in the hands of a tactical boss for that specific area. Communications within that attack position are now done face-to-face, creating more tactical-radio air space. Establishing a tactical level is how the IC maintains strategic-level capability.

In the event of a mayday, a tactical boss can maintain entry control for their attack position. They can also continue to manage the tactical deployment of their assigned task-level resources. Working company officers (tied to their SCBA) do not operate in positions that allow them to do either one of these things. We assign RICs at the scene of every structure fire in case there is a mayday. Assigning a true tactical level allows the IC to maintain strategic control all the time, especially in the event of a mayday.

All of the mayday incidents I've been part of were resolved in less than 5 minutes. These quick resolutions all had happy endings. In each of these situations, crews closest to the mayday solved the problem. In each incident, the dedicated RICs were not part of the rescue because they were too far away (outside). This makes the dedicated RIC the outside help. Crews working on the interior are the inside RICs. Now we start to view rapid intervention for what it really is—a capability.



The on-deck companies that had been assigned to the Alpha and Charlie Sides (E3) have been assigned to the 3rd floor and repositioned to the 2nd floor, on deck (E4) to move them closer to main fire area. E4 represents the outside rapid-intervention capability for the firefighters operating on the 3rd floor. Devoting the initial effort to eliminating the fire allows the IC to quickly achieve fire control. This will ensure a safer environment and will provide more time to complete the operation.

Embedded Safety: The Smart Approach

The way we manage our risk and exposure to the fire is by managing ourselves. Our system must connect incident command and firefighter safety with effective strategy and tactics. These are requirements for developing, implementing and managing effective incident action plans. Outside rapid intervention is embedded into the incident organization's tactical level. In the Blue Card system, this begins with assigning an on-deck crew to the most active attack position (typically the side of the structure where the initial company made entry) after each critical area is covered. Each department will manage the 2 out according to their own deployment capability. The on-deck company's first responsibility is to stand by as the RIC. The initial operation includes the IC managing three to four task-level crews. This is where we achieve most of our offensive success.

When the initial effort doesn't control the fire, the IC reinforces the operation with additional companies and tactical-level, warm-zone bosses (typically later-arriving chief officers). Ongoing strategic level responsibilities include managing the incident strategy based on the incident conditions. Expecting the fire-control specialists to be responsible for their own task-level safety forces us to identify the safety routines for the strategic, tactical and task levels and align them within the system(s) we use to manage hazard-zone operations. This is not an operational responsibility; it's an executive-level one belonging to the fire chief and other department leadership.

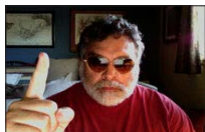
One of the most powerful solutions to come out of our department's recovery process was "embedding" our Safety Division into the Operations Section. We reorganized our fire department so each battalion response vehicle was staffed with a battalion chief and a safety officer. The first battalion arriving to the scene transfers command from the fast-attacking company officer. This places a strategically positioned IC in charge of the incident before the initial-attacking company cycles through their first bottle of air. It also immediately places a support officer with the IC. Later-arriving battalions are used as tactical-level, warm-zone bosses (gone are the days when later-arriving chiefs would jump in the back seat of the command post and distract the IC with pointless chatter). Their partner becomes a static safety officer for that attack position.

The system is designed to eliminate the fire quickly. This fact is evidenced by the NFPA statistic that the majority of structure fires are brought under control with the first attack line and less 500 gallons of water. This effective front end must be augmented with a system that allows us to operate beyond this initial phase when the fire is not quickly brought under control. Correcting alignment and connecting the strategic and task levels with a true tactical level eliminates the traditional holes in our operational system. Embedding both safety officers and exterior rapid-intervention capability under the leadership of tactical-level, warm-zone bosses makes us safer and more effective.

Click here to launch this issue's free PowerPoint training component. This program is designed to connect task-level safety requirements with the incident organization's tactical and strategic levels. Be sure to check the notes section of the powerpoint for more detailed information. **BS**

PowerPoint

Please click here to download the PowerPoint presentation.



Nick Brunacini joined the Phoenix Fire Department (PFD) in 1980. He served seven years as a firefighter on different engine companies before promoting to captain and working nine years on a ladder company. Nick worked as a battalion chief for five years and in 2001, he was promoted to shift commander.

He then spent the next five years developing and teaching the Blue Card curriculum at the PFD's Command Training Center. He retired from the department in 2009. Nick is the author of "B-Shifter—A Firefighter's Memoir." He also co-wrote, "Command Safety."



Why was my RIT hunter platform recalled to Headquarters? I was serving as RIT for a car fire, two ill diabetics and a quorum of deputy chiefs on a golf meeting. I demand an explanation!



Come on in and have a seat, Megatron. The chief had to step out in effort to stand down the Army after your latest dress-up party. He asked that I take a whack at reformatting your hard drive.



The communists wrote my core programming. I'm impervious to your Western decadence, you empty pitcher! I live to serve in a way that inspires people to worship me as their Hero-God!



I'm a vessel brimming with Truth. Time to quench your thirst and set yourself free.



The best defense has always been a strong offense. Eliminating the fire solves all our problems. Isn't that why the customer called us? To put out the fire? All the non-fire-control distractions that preoccupy you Shriners must stop! For the love of bagpipes, I've known aerialscopes with more intelligence!



Cutting a hole in the roof is the ultimate act of tactical love!

Cut the head off the snake and it dies.

Blue Card Goes Coastal

The Oceanside Fire Department uses its new CTC to train & unify area departments.

BY JOE WARD WITH STU SPRUNG

Firefighters are most critical of other firefighters, which isn't necessarily a bad thing. It keeps all of us on our toes and makes us constantly strive to improve, which helps us better serve the public.

Since the beginning of radio communication in the fire service, firefighters have enjoyed criticizing others' mistakes while talking on the radio, especially during one of the most stressful moments: when pulling up first on a working fire.

For years, the Oceanside (Calif.) Fire Department (OFD) shared its dispatch with the police department. We were on different channels, however, so we could never hear each other's slip-ups. As years went by, many of our internal radio flubs became anecdotal stories; the *really* good ones became firehouse lore.

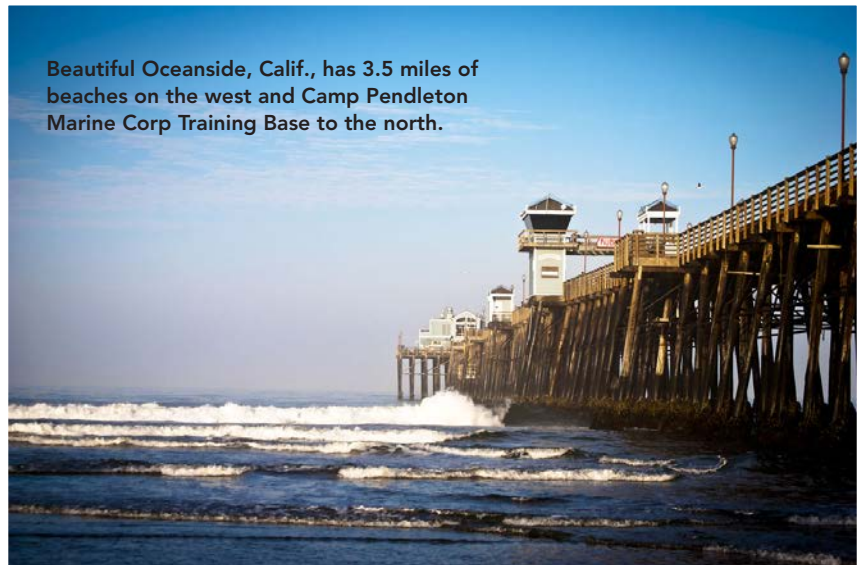
In 2007, when the OFD moved to a "zone-based" fire-dispatch system shared by more than a dozen fire departments, suddenly any internal strategic, command, or verbal flaws or vulnerabilities were broadcast to hundreds more ears. Although "cracks" between departments about an individual's radio-traffic shortfalls were always good-natured, it invariably felt to the organization's members like a reflection of the entire department. The OFD is as prideful of its image as any other fire department, so something needed to be done. We discovered a solution that same year.

Oceanside Fire Department

Established in 1888, the historic California coastal city of Oceanside is one of the oldest and largest in San Diego County. The OFD serves a population of 183,000 across 42 square miles. The department's 115 full-time career firefighters respond out of eight fire stations to approximately 19,000 calls annually.

Oceanside is fortunate to border on its north side the world's largest United States Marine Corps Amphibious Training Base, Camp Pendleton. However, with that privilege comes additional challenges. Camp Pendleton hosts 70,000 personnel and families, and the base's 200 square miles of terrain have a high occurrence of large, firing range-caused wildfires.

Additionally, Oceanside is home to some of Southern California's most popular beaches. The fire department's Lifeguard Division and Dive Team



Beautiful Oceanside, Calif., has 3.5 miles of beaches on the west and Camp Pendleton Marine Corp Training Base to the north.

PHOTO BIGSTOCK / SISKIDD8513

protect Oceanside's 3.5 miles of beach. Approximately 5 million people visit Oceanside's coast annually, with lifeguards conducting more than 2,000 rescues and issuing 100,000 safety enforcements and preventive actions each year.

Compounded by one of the busiest freeways in the United States (Interstate 5) and the needs of neighboring cities—Carlsbad, Vista and Fallbrook—there is always a lot going on. The OFD must constantly train and prepare to serve its community.

Experience: Slowly Gained, Quickly Lost

It's common knowledge that in the past decade, the fire service has faced a generational shift. Many of the most veteran firefighters have retired, which has left an experience vacuum. Along with an overall decrease in actual fires, we also have younger firefighters filling the upper ranks, many without the generations of experience past officers had. While our future leaders are driven, bright and highly competent, fire-service history, as well as common sense, proves there is no substitute for experience.

This experience comes over time; however, without proper training and education, the risks associated with those experiences have the potential to be very high. Like almost every other fire department, Oceanside needed a tool that would help our future and present officers close the experience gap. We needed a common model, a sort of template that could be used by all personnel, experienced and inexperienced alike.

New Chief, New Plan

In 2007, Phoenix Fire Department Assistant Chief Terry Garrison became the fire chief of the OFD. He brought with him a tool we needed—the Incident Manage System (IMS). Chief Garrison had co-written the "Fire Command Workbook: The Essentials of Local IMS." IMS appealed to us because it provides a repetition-based, systematic approach to incident command, as well as an all-hazards approach to mitigating incidents. Most important, IMS enabled everyone to communicate with uniform terminology and to approach incidents in a systematic way. Basically, it put everyone on the same page, which we believed would create less fireground confusion and more efficient operations.

IMS is the foundation for the Blue Card Command Certification Program. Even though IMS and the resulting Blue-Card model had been created, used and fine tuned in Phoenix, Ariz., for 30 years, Blue Card wasn't yet established in California. Prior to Chief Garrison's arrival, we had actually considered Blue Card. We recognized the program's focus on repetitive fire simulations would help build confidence usually achieved only through years of experience. However, we had issues moving forward because the system seemed a bit foreign to us, and we really didn't know of any nearby departments that used it. As one of the Blue Card system's first users, Chief Garrison brought with him depth of experience and first-hand knowledge. His presence in Oceanside was fundamental in implementing Blue Card within our department.

However, it wasn't until 2009 when Chief Garrison's successor, Chief Darryl Hebert, took over that we were able to move toward fully implementing Blue Card. In 2010, we applied for the Assistance to Firefighters Grant (AFG), which provided the funding necessary to formally adopt and implement the training.

The grant allowed us to move forward with training not just our officers, but all OFD personnel. Blue Card comprises a 50-hour online training program and a three-day certification simulation/evaluation lab. Since many of Blue Card's principles are unique (such as the management of initial rapid intervention crews, on deck and recycling crews), we wanted to make sure every one of our personnel on a fire scene understood the terminology and could recognize why

and when specific operations were occurring. The comprehensive nature of the training made it immediately clear that Blue Card was going to be the best solution to any incident organization experience issues we had.

Double-Wide Gets a Makeover

As personnel began to chip away at the required 50-hour online course, we realized that in order to get all 115 suppression members through the classroom portion, we would need a more robust command-training center (CTC).

We understood that in addition to emergency response, station duties, scheduled training and other needs, it would be difficult for members to complete the online module on duty, so we gave crews six months to complete the online course (which we discovered actually took 50 hours.) This would also afford us the time to come up with an adequate training center.

Since our shift and training chiefs were going to be the Blue Card instructors, we had them complete all the training up to the point of becoming Blue Card instructors before the rest of the department. Through their experiences at the Clay Fire Territory CTC in South Bend, Ind., we had a general idea of what we needed from a CTC. However, only after visiting other existing facilities in Washington and Colorado did we have a good idea of what was required to create one.

Our existing 4-acre fire-training center had a double-wide trailer that had “temporarily” served as Fire Station 7 for more than a decade. In order to convert the unit into a training facility, we needed some help. Like many other fire departments, funding for projects like this was non-existent. The AFG grant we received covered the cost of the 50-hour online course and the computer headsets we needed for the work stations, but everything else required other resources. Additionally, we believed that Blue Card was bigger than us; perhaps our neighboring agencies would be interested in the program at some point. Looking into the future, we believed the OFD needed to create a multi-agency, all-hazard CTC.

Chief Hebert took a gamble and approached The Home Depot. Fortunately, the home-improvement store was looking for a community project to support, and they took on the CTC as if it were their own. With additional support from companies such as Glidden, Tough Shed and Delta (among others), we transformed our old trailer into a modern CTC. It contains:

- Fifteen independent computer-equipped work stations
- A large flat-screen instructional monitor
- Two large flat screens for the simulation director’s station
- A simulated dispatch console
- An isolated incident commander’s room
- A pull-in garage with a projection screen that an IC can pull into with their own vehicle
- A fully functional kitchen and barbecue area



A double-wide trailer that had served as a fire station now houses Oceanside Fire Department’s command training center.



OFD hosts a train-the-trainer course for the San Diego North Zone officers.



The kitchen has become one of the CTC’s most useful components.

While most of the features make sense, the full kitchen seemed to be a bit excessive to some of us. It became a key component, however, since most of our Blue Card training sessions last from 4–8 hours and can span several days. The kitchen became a convenient place to unwind and allowed us to provide snacks, beverages and catered lunches.

Once the CTC was operational, we scheduled all of our personnel (on three duty shifts) to come in for the three-day (24-hour) simulation lab check-off. We broke it down into six 4-hour sessions to meet the required 24 hours. It took us four months to complete the training.

North-Zone Agencies Get Blue Card Training

As we moved forward with Blue Card training and implemented the system in field operations, it became clear to surrounding agencies (especially those listening to our radio traffic) that Blue Card could have value for their organizations. We started receiving feedback that our incidents seemed to run smoothly, our communication was concise and clear, and the system seemed relatively simple.

Internally, we noticed a significant increase in organizational, tactical and command confidence in our company officers. Also, as desired, fireground terminology and expectations became more uniform.

We believed in the Blue Card system so much, we were eager to help surrounding agencies get on board. We had put so much effort into the CTC (and ultimately our own fire-department funds, with our administration cost-cutting and reallocating resources to assure completion), there was discussion about how we could share costs. We realized that trying manage the transfer of funds between agencies would slow Blue Card's progress throughout the region, which was our main priority. It was most important to get San Diego's North County fire departments (the "North Zone" group) on the same page strategically and tactically. Through the years, most agencies had developed their own "style" of incident management, all based on the National Incident Management System's Incident Command System (ICS). As a group, we were anxious to have the same language, tactics and strategies on both incidents and drills.

As the chief officers of surrounding agencies began to witness Blue Card's value, they started coming to our CTC to become certified, and ultimately to become Blue Card instructors. Then, they implemented Blue Card in their own departments, often bringing their firefighters to Oceanside's CTC. Our North Zone consists of 14 different departments, and all of them are currently in different stages of implementing Blue Card. There is a North Zone Emergency Operations Manual that all 14 departments are adopting, and it is being modified to align with Blue Card's principles.

As an added benefit, OFD was able to extend the CTC's use to the community and was instrumental in creating the "Military in Transit" program for transitioning veterans. We also have a program for corporate team-building, which utilizes our tactical simulations and some of the basic Blue Card principles. (See "CTC—Community Training Center," right.)

CTC—Community Training Center

Oceanside Fire Department's CTC does double duty as community outreach center.

At first, our intent was to keep our new CTC as simply that, and not use it for anything else. Our chief, Darryl Hebert, envisioned its value beyond the fire department.

With our large military and corporate community, Chief Hebert realized we could develop a Military in Transit program to help transitioning veterans. We host the Firefighter for a Day project, which pairs local CEOs and executives with veterans looking for careers in the civilian world. Using Blue Card scenarios, everyone works together in a team-building atmosphere, with the goal of building connections that might have otherwise not occurred. We try to fortify these connections by creating fireground parallels to the corporate setting using our CTC. We assign different levels of divisions and responsibility within the team, pose a problem or issue, and propose tasks and objectives to solve the issue, similar to how we manage things on the fireground. One of the main points we emphasize for the executives is empowering personnel for success. For the veterans, this program gives them a glimpse inside the fire department as a career option. So far, this has been one of our department's most popular community-outreach programs in the Oceanside Fire Department.

Lessons Learned

Implementing Blue Card was a long process, and it was not without obstacles. The program was new to us, and it didn't really have a template that fit our needs and culture. We initially tried to customize it to fit our existing way of doing things, but it just didn't work. We realized there's too much to Blue Card to stray off its tried-and-tested path. Once we understood that, however, everything went smoothly and made perfect sense.

Another hurdle was that we were unprepared for the expenses related to building a command-training program. Fortunately, we had unconditional support from our fire administration, which constantly had to reallocate funds in order for us to complete the CTC on schedule. We lucked out with help from The Home Depot, but if we were to do it again, we would secure funding and partnerships prior to construction.

One thing we learned along the way is that it is important to shorten the transition between the 50-hour course and the three-day simulation training as much as possible. It's a good idea to have a facility in place (or access to one) prior to implementation.

It has been four years since we began utilizing Blue Card, and the program now permeates almost all aspects of OFD's operations and training. In addition to utilizing the program at actual incidents, every practical multi-company drill is scenario-based utilizing Blue Card principles. The tactical portion of all officer promotional testing revolves around it, as well. One of the biggest benefits is that Blue Card has brought our surrounding North Zone agencies closer together operationally. Prior to Blue Card, it always seemed as if each city was an island. By training together utilizing Blue Card principles, we realized our perceived fundamental differences were just that, perceived. In reality, almost all of our tactical and operational principles were exactly aligned; we just needed to speak the same language. We've been responding to incidents in each other's cities for decades, but it wasn't until recently that we've been unified not just operationally, but in training as well. Common language and tactical priorities have made us more efficient and effective as a group. We are definitely providing less ammunition for each other on the radio! **BS**



Joe Ward is the division chief of fire training for the City of Oceanside. He has held that position since 2011 and has served the Oceanside Fire Department for 23 years. He has worked as a firefighter/paramedic, captain and battalion chief. He currently serves as the chair of the North Zone Training Officers Committee and has served in many capacities throughout the San Diego County. The Oceanside Fire Department is the second busiest department in San Diego County. The Fire Department is an all career organization, with 115 members and 8 stations, covering approximately 42 square miles of North San Diego County.

A lesson from the foremost authority on rapid & aggressive fire control.

I do not:

- Respond.
- Wait for ventilation
- Wait for a search
- Wait for 2 out
- Wait for RIT
- Crawl through heat
- Wait to open up
- Check before discharging

I:

- Am always there
- Immediately flow water into heat
- Am the most effective form of fire suppression that exists

Take it from me: Hit it as hard & fast as you can.

Just Glow with It, Baby!

Personal accountability just got a whole lot brighter.

BY CHRIS MARTIN

In this issue, we look at a little addition that can add a whole new level of safety to your fireground operations through personal accountability. Accountability is not just a buzzword. It is something we must ingrain in all members operating on the fireground from top to bottom. At the strategic level, it is the IC's job to know which companies are operating where. The IC is the "sitting boss" who must know who is Alpha, who is operating under Alpha and who is in staging, etc. At the tactical level, the division boss must know which companies are working under them, where they are and what they are doing. The division boss is the "standing boss" who uses tools, such as passports and a division board, to ensure proper accountability. At the task level, accountability falls to the company officer, the "working boss." When operating in the hazard zone, we rely on voice, vision or touch to maintain adequate accountability. Remember, we are working: Advancing hoselines, pulling ceiling, performing searches. This can be a very chaotic, difficult and exhilarating experience. Throw in multiple companies operating within a tight occupancy, and things can seem unruly. Determining who is who amid the chaos becomes much more of a challenge. In this installment of *Trial By Fire*, we share an inexpensive, simple product that can help.

MN8 Foxfire's illuminating SCBA facepiece decals are customizable, glow-in-the-dark stickers that make it easy to identify individuals or companies in dark, smoky conditions. Yes, basically, it is a phosphorescent sticker with your name on it that you put on your mask. Hear me out: Some members of our department started putting their last names on their masks with the station label-maker. A great idea in theory. When masked up and working in the hazard zone, it became pretty easy to look at someone and see who it was right away. This was especially helpful for new recruits still trying to learn names when everyone kind of looks the same with all their gear. The labels could also assist in identifying a downed or disoriented firefighter in a mayday situation. However, the label-maker idea had two major flaws. First, most label makers use a heat-transfer process to print labels. As soon as they were exposed to their first good working fire, they immediately faded black (See Image 1). The second issue was the labels did not illuminate, so the only way to really look at them in the dark was to shine a light in your buddy's face to see who it was. My buddy personally did not like getting a flashlight beam to the face. The MN8 Firefox decals seem to address these two flaws.

They are small, rocker-shaped pieces of phosphorescent material printed with the name of your choosing. The decals are cut to fit either an MSA or Scott face piece. (See Image 2). According to the manufacturer's website, photoluminescent crystals embedded into the label material, "possess the unique capacity to absorb and store energy from ambient light



Image 1: Traditional labels can't endure heat and fade to black in fire conditions.



Image 2: MN8 Firefox's labels are shaped to fit MSA or Scott face pieces.

like a naturally occurring battery. In darkness, the pigments instantly emit a glow by releasing the stored light energy. Our special production processes enable our coatings and products to glow for up to 17 hours when fully charged.” The company offers an entire line of glow-in-the-dark products—even glow-in-the-dark paint to make your axe look like a light saber.

Our department has had several of these identifiers in service for almost 11 months, and they seem to be holding up great. They are just over a half an inch high and don’t drastically limit your visibility. The phosphorescent material can be charged from any light source. So if you keep your mask in a bag all of the time, just a little ambient light, or light from a flashlight, can make these glow (See Image 3).

You can order the decals directly from MN8 Foxfire for \$8.95 each (mn8foxfire.com). They print labels in several colors. Foxfire says the text is limited to 10 characters, but they worked with us for some of the longer last names we have—most of which end in “ski.” **BS**



Image 3: You can “charge” the glow-in-the-dark labels with a flashlight or ambient light.



Chris is a B Shifter who works for Clay Fire Territory in South Bend, Ind. He serves as an engine company lieutenant and a field-training officer. He also is the department's research and development coordinator. He has a degree in marketing from the University of Notre Dame and will not purchase anything without first reading several online reviews. Chris can be reached at cmartin@clayfd.com.

Big Red Truck Serves the Emerald City

A 1946 Kenworth protected City of Seattle & Washington State residents for more than 50 years.



This 1946 Kenworth Motor Company engine was part of the Seattle Fire Department's first multi-vehicle order.

This beefy 1946 Kenworth Motor Company engine began its life of service as Seattle Fire Department Apparatus No. 155. Part of the department's first-ever multi-apparatus order, the vehicle originally dispatched from Seattle Fire Department Station No. 10—Fire Headquarters.

Loyal No. 155 served the citizens of Seattle from various stations through the years. In 1949, it moved to Engine 13 on Beacon Hill. In 1958, it transferred to Engine 38 in the Laurelhurst area, where it remained for 10 years.

The rig spent its "golden years" at Engines 21 and 12 before earning a respite as a reserve vehicle. The department surplused the engine in 1972. Instead of being destroyed, the honored chariot was sent to the Ross Lake area—a primarily industrial town—where it worked until 2001.

No. 155 was sold at that point to Chuck and Stacy Kahler, vehicle collectors and restorers who own two other vehicles from Seattle's first multi-vehicle order. The husband-and-wife team has restored the majority of the vehicle themselves—except for the gold leaf—and continue working on this vehicle and many others. **BS**





The vehicle earned top honors right off the line, serving from Seattle Fire Department Headquarters.



Do you have a gorgeous restored emergency vehicle? Tell us about it! Please e-mail us a brief write-up that describes how you acquired the vehicle, what you've done to restore it and its original and current specs. We need several before and after pictures to help tell the story, so please include jpgs. Send your submissions to mgarrido1@comcast.net, writing "Rear Axle" in the subject line.



Does your restoration project rival Bruno's beloved Mack pumper, or the Kenworth engine featured in this issue? Prove it!